ENVIRONMENTAL ASSESSMENT

GRAZING PERMIT RENEWAL FOR ROCK CORRAL ALLOTMENT

DOI-BLM-ID-I010-2012-0051-EA

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CHAPTER 1 - INTRODUCTION:

Background

There are several authorities which mandate or allow the Bureau of Land Management (BLM) to authorize livestock grazing on public lands as part of multiple-use management of natural resources. Livestock grazing is an accepted and valid use of public lands under the Taylor Grazing Act of 1934, the Federal Land Policy and Management Act (FLPMA) of 1976, and the Public Rangelands Improvement Act (PRIA) of 1978. This Environmental Assessment (EA) is prepared, pursuant to the National Environmental Policy Act (NEPA) of 1969, to address the request for continued livestock grazing on public lands in the Upper Snake Field Office.

The Rock Corral Allotment lies approximately 30 miles west of Blackfoot, Idaho in portions of Bingham, Blaine, and Butte Counties. The allotment includes 21,201 acres of BLM land. The allotment is divided into four pastures (Sterling North, Sterling South, East, and West). There is one permittee authorized to run 350 head of cattle from April 15th to July 7th and 186 head of cattle from October 15th to December 15th each year. The current grazing rotation is a rest rotation system. Two of the pastures are used during the spring season, one of the pastures is used during the fall/winter, while the remaining pasture is rested the entire year. Deferment is also built into the grazing rotation, authorized livestock use is alternated each year so that grazing does not occur at the same time in each pasture annually. There are no wells located in the allotment. Water is hauled to eastablished watering areas from wells located in adjacent allotments.

The general topography in the Rock Corral Allotment is gently rolling with major relief resulting from basalt extrusions and craters. The elevation ranges from 4,650 feet above sea level in the South Pasture to 5,650 feet on Rock Corral Butte. Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*) dominates the overstory in the allotment, while bluebunch wheatgrass (*Pseudoroegneria spicata*) dominates the understory. The vegetative composition in the Rock Corral Allotment has been altered the past fifteen years. Since 1996, only two percent of the allotment has not been affected by wildfire. In the same time period, large portions of the allotment have been burned over multiple times. The Rock Corral Allotment contains both native and non-native seedings. A large crested wheatgrass (*Agropyron cristatum*) is located in the East Pasture. In 2010, a 2,000 acre native seeding was planted in the South Pasture. Average yearly precipitation in the two lower pasture ranges from 8 to 12 inches, while the two upper pastures precipitation ranges from 12 to 16 inches. Approximately, fifty percent of the precipitation in the allotment occurs during the plant growing season.

Purpose and Need for Action

The Big Desert Management Framework Plan (MFP) identifies the Rock Corral Allotment as available for domestic livestock grazing. Where consistent with the goals and objectives of the MFP, and Idaho's Standards and Guidelines for Grazing Management (1997), it is BLM policy to authorize allocation of forage for livestock grazing to qualified operators. The purpose of the proposed action is to authorize livestock grazing consistent with BLM policy and in a manner that maintains or improves project area resource conditions and achieves the objectives and desired conditions described in the Big Desert MFP. The analysis and authorization are needed

because the current permit is expiring, the permittee has applied for a renewal, and the allotment evaluation, as described below, found that not all standards were met within the allotment.

The evaluation for the Rock Corral Allotment dated December 12, 2011, identified that Standard 4 and 8 of the Idaho Standards for Rangeland Health were not being met but making significant progress towards being met.

- *Standard 4 (Native Plant Communities) in the Rock Corral Allotment is not meeting the standard, but is making significant progress towards meeting. The frequent fire interval that has occurred in the allotment since 1996 has altered the shrub component. Since 1996, approximately ninety-eight percent of the allotment has been affected by wildfire multiple times. The shrub component will continue to reestablish in the allotment as long as the allotment isn't affect by future fires. Despite the reduction in the shrub component, the grass and forb components are productive and healthy within the Rock Corral Allotment.*

- *Standard 8 (Threatened and Endangered Plants and Animals) is designed to assess whether habitats are suitable to maintain viable populations of special statues species. The sagebrush community type has been altered due to wildfires. The shrub component on the allotment began to reestablish after each fire event, however, the rate of reestablishment has been hampered by repeated wildfires.*

The Evaluation also indicated that livestock management in the allotment is in conformance with the Guidelines for Livestock Grazing Management.

Location

The Rock Corral Allotment lies approximately 30 miles west of Blackfoot, Idaho in portions of Bingham, Blaine, and Butte Counties (Figure 1). The allotment is located in Townships 1- 3 South, Ranges 29-31East. The allotment includes 4 pastures in two discontinuous segments (Figures 2).

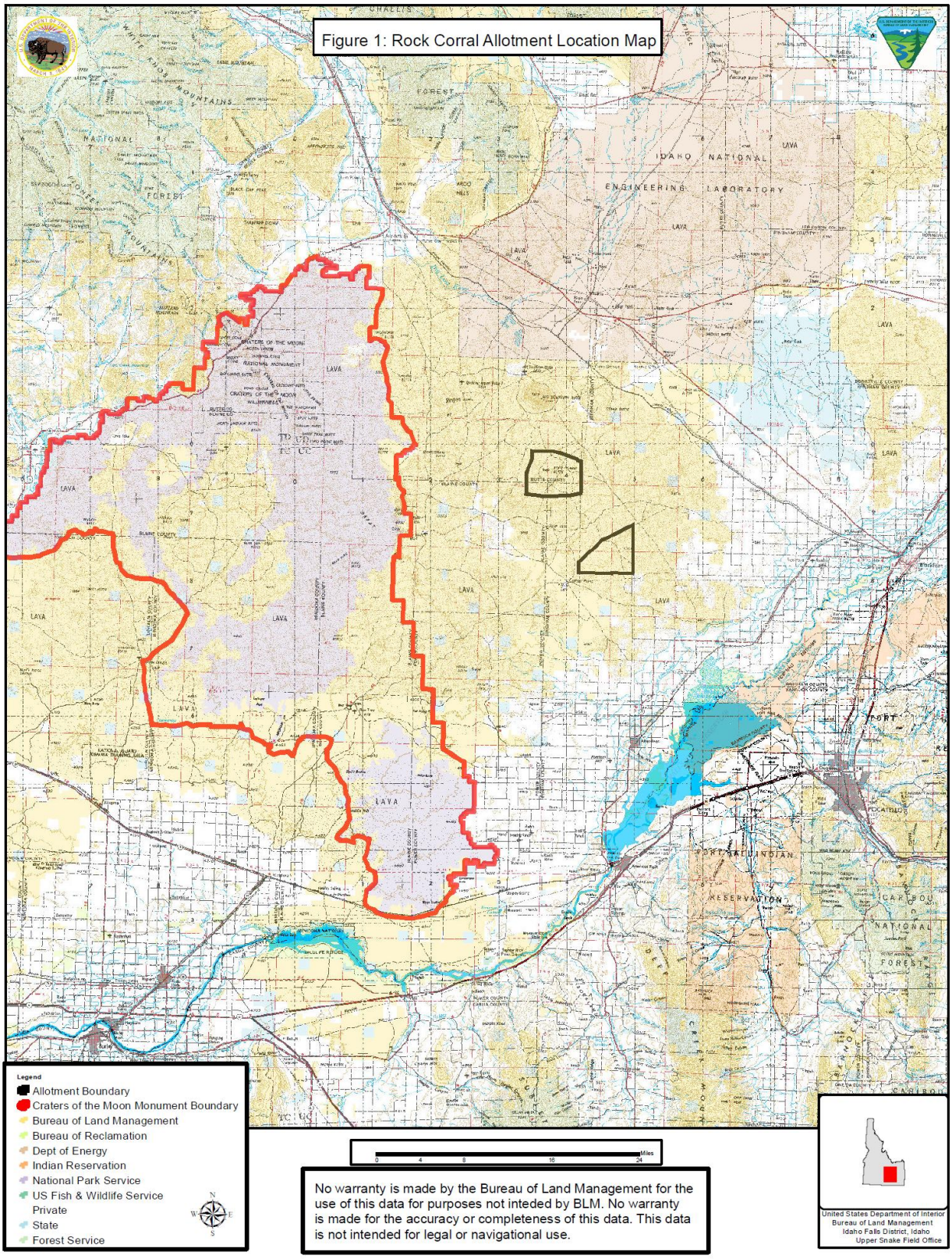
Figure 1: Rock Corral Allotment Location Map
Legend
Allotment Boundary
Craters of the Moon Monument Boundary
Bureau of Land Management
Bureau of Reclamation
Dept of Energy
Indian Reservation
National Park Service
US Fish & Wildlife Service
Private
State
Forest Service
Miles
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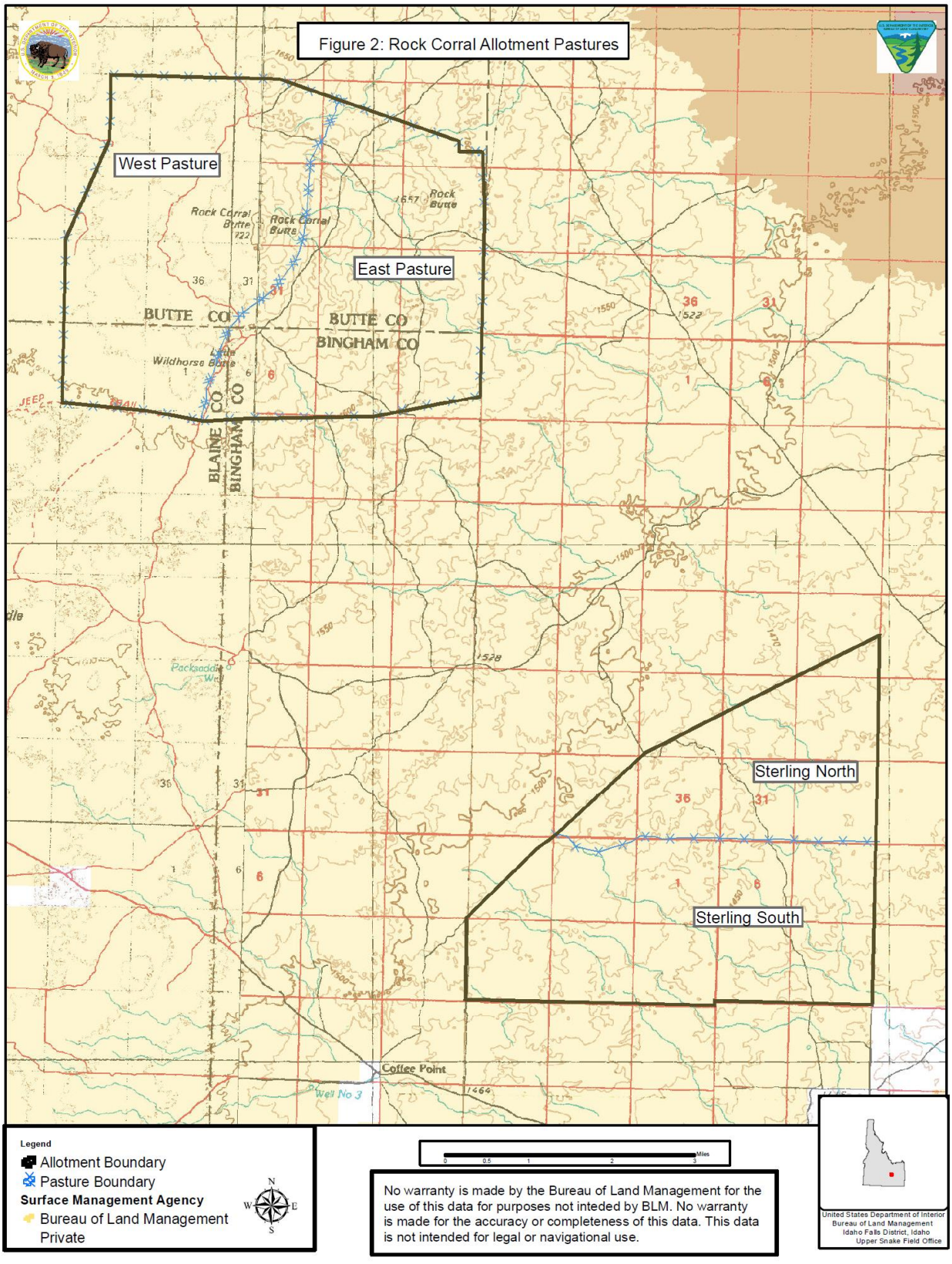
Figure 2: Rock Corral Allotment Pastures
West Pasture
East Pasture
Sterling North
Sterling South
BUTTE CO
BINGHAM CO
BLAINE CO
Rock Corral Butte
Rock Butte
Wildhorse Butte
Packsaddle Well
Coffee Point
Well No 3
Legend
Allotment Boundary
Pasture Boundary
Surface Management Agency
Bureau of Land Management
Private
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Conformance with Land Use Plan

The Proposed Action and alternative for the Rock Corral Allotment have been reviewed for conformance with the Big Desert MFP, approved on October 15, 1981. The actions are in conformance with the MFP objectives to:

Big Desert MFP Objective: Maintain and/or improve quantity and quality of the vegetative resources through more intensive range management programs. This will be done by implementing grazing systems designed to provide for the physiological growth requirements of the vegetation, by installing management facilities and vegetative manipulation projects. (RM-1)

Relationship to Statutes, Regulations or Other Plans

The 1868 Fort Bridger Treaty, between the United States and the Shoshone and Bannock Tribes, reserves the Tribes right to hunt, fish, gather, and exercise other traditional uses and practices on unoccupied federal lands. Under the treaty, the federal government has a unique trust relationship with the Shoshone-Bannock Tribes. BLM has a responsibility and obligation to consider and consult on potential effects to natural resources related to the Tribes treaty rights or cultural use.

Grazing administration exclusive of Alaska is governed under the Federal Code of Regulations 43 CFR 4100 – Grazing Administration. The purpose is to provide uniform guidance for administration of grazing on public lands.

On August 12, 1997, Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management were approved by the Secretary of the Interior. Subsequently, livestock management practices must be in conformance with the approved standards and guidelines.

The Rock Corral Allotment was evaluated in 2011 to assess whether the allotment was meeting requirements of the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (ISRH). In December 2011, an Evaluation Report of Achieving Standards for Rangeland Health was issued for the allotment. The Evaluation Report found that Standards 1 and 5 are being met, and Standards 4 and 8 are not meeting but are making significant progress. Livestock management practices within the Rock Corral Allotment conform to all applicable Idaho Guidelines for Livestock Grazing Management. Standards 2, 3, 6, and 7 are not applicable to the allotment.

Public Contact and Issue Identification.

In the spring of 2011, the Upper Snake Field Office sent a letter to the permittee, interested publics, and other agencies inviting them to participate in the field assessment for the Rock Corral Allotment. The permittee participated in the field assessment. In November 2010, the allotment assessment was sent to the aforementioned parties requesting comments and any additional data. No other information was provided. In December 2011, the Upper Snake Field Office sent the allotment Evaluation Report and potential alternatives for the Rock Corral Allotment to the parties and they were invited to identify issues and alternatives. Comments were received only from the permittee and were considered in the analysis.

CHAPTER 2 – NO ACTION AND ALTERNATIVES

Alternative A (No Action): Issue Unmodified Grazing Permit

Under a No Action alternative, the Upper Snake Field Manager would authorize continued livestock grazing under the same terms and conditions and the same management guidelines as the current permit. Under Alternative A, no additional improvements or projects would be authorized in the Rock Corral Allotment. Renewing the current permit would meet the purpose and need for action.

Alternative A includes the following:

Authorized Use Change:

1. None

Projects:

2. None

Grazing Plan:

3. Alternative A Grazing Plan

Year	April 15 – May 26	May 27 – July 7	October 15 – December 15	Rest
2013	South Sterling	North Sterling	East	West
2014	West	East	North/South Sterling	
2015	South Sterling	North Sterling	West	East
2016	East	West	North/South Sterling	

*Rotation repeated after 2016

Mandatory Terms and Conditions

4. Permit:

Allotment Name	Lvstk#	Lvstk Kind	Begin	End	%PL*	Type of Use	AUMs**
Rock Corral	350	Cattle	4/15	7/7	100%	Active	967
Rock Corral	186	Cattle	10/15	12/15	100%	Active	379

*% PL = Percent public land

Alternative B (Proposed Action/Preferred Alternative): Adjust Season of Use, Construct Pipeline, and Drill Well

The permittee has requested changes in management as described below to meet the purpose and need for action. Under the Proposed Action, the Upper Snake Field Manager would authorize continued grazing within the allotment with changes discussed below:

Alternative B includes the following changes:

Authorized Use Change:

1. Change of the spring season of use from 4/15 – 7/7 to 4/1 – 7/7. The permittees would be authorized to graze 84 days within the 98 day season of use. The fifteen day extension would allow for flexibility to adjust grazing in light of range and pasture readiness. The total number of spring AUMs authorized in the Rock Corral Allotment would not change.

2. Change of the fall season of use from 10/15 – 12/15 to 10/15 – 12/30. The total number of fall AUMs authorized in the Rock Corral Allotment would not change.

Projects (Figure 3):

3. Drill a well north of Rock Corral Butte. The water storage tank that would be installed near the new well would be painted with natural colors.

4. Construct two separate pipelines in the Rock Corral Allotment totaling ~22 miles. The first pipeline would originate from new well described above and run ~ 9 miles. There would be two troughs in the East Pasture and three troughs in the West Pasture. The second pipeline would originate from a private well located in the southeast corner of the South Sterling Pasture and run approximately 13 miles. The pipeline would consist of two trough sets in the North Sterling Pasture and four trough sets in the South Sterling Pasture. The pipeline would be buried. The area of disturbance would be no greater than twenty acres. The project area would be reseeded with native species after the project is complete. All of the trough sets would be placed at existing waterhaul locations and the pipeline would be installed adjacent to existing roads.

5. Construction of the projects described above would not be authorized between March 1 and June 30 so as to not disturb nesting bird species in the area.

6. Prior to any ground-disturbing activities, a Class III inventory of the proposed range improvements would be conducted in areas that have not been previously surveyed for cultural resources, and any adverse effects to historic properties would be avoided or mitigated though consultation with the Idaho SHPO and affected tribes.

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Grazing Plan:

8. Modify existing four pasture grazing rotation.

9. Alternative B Grazing Plan

Year	4/1 – 5/19	5/20 – 7/7	10/15 – 12/30	Rest
2013	West	East	Sterling North	Sterling South
2014	Sterling North	Sterling South	East	West
2015	East	West	Sterling South	Sterling North
2016	Sterling South	Sterling North	West	East

*Rotation repeated after 2017

10. The annual bill schedule for the Rock Corral Allotment would be as follows:

Allotment Name	Lvstk#	Lvstk Kind	Begin	End	%PL*	Type of Use	AUMs**
Rock Corral	350	Cattle	4/10	7/2	100%	Active	967
Rock Corral	186	Cattle	10/15	12/15	100%	Active	379

Upon prior approval from the Upper Snake Field Office, the permittee may be authorized to adjust the season of use within the permit dates of 4/1 to 7/7.

Mandatory Terms and Conditions

11. Permit:

Allotment Name	Lvstk#	Lvstk Kind	Begin	End	%PL*	Type of Use	AUMs**
Rock Corral	300	Cattle	4/1	7/7	100%	Active	967
Rock Corral	150	Cattle	10/15	12/30	100%	Active	379

12. In the spring season of use, the permittees would be authorized to graze 84 days within the 98 day season of use.

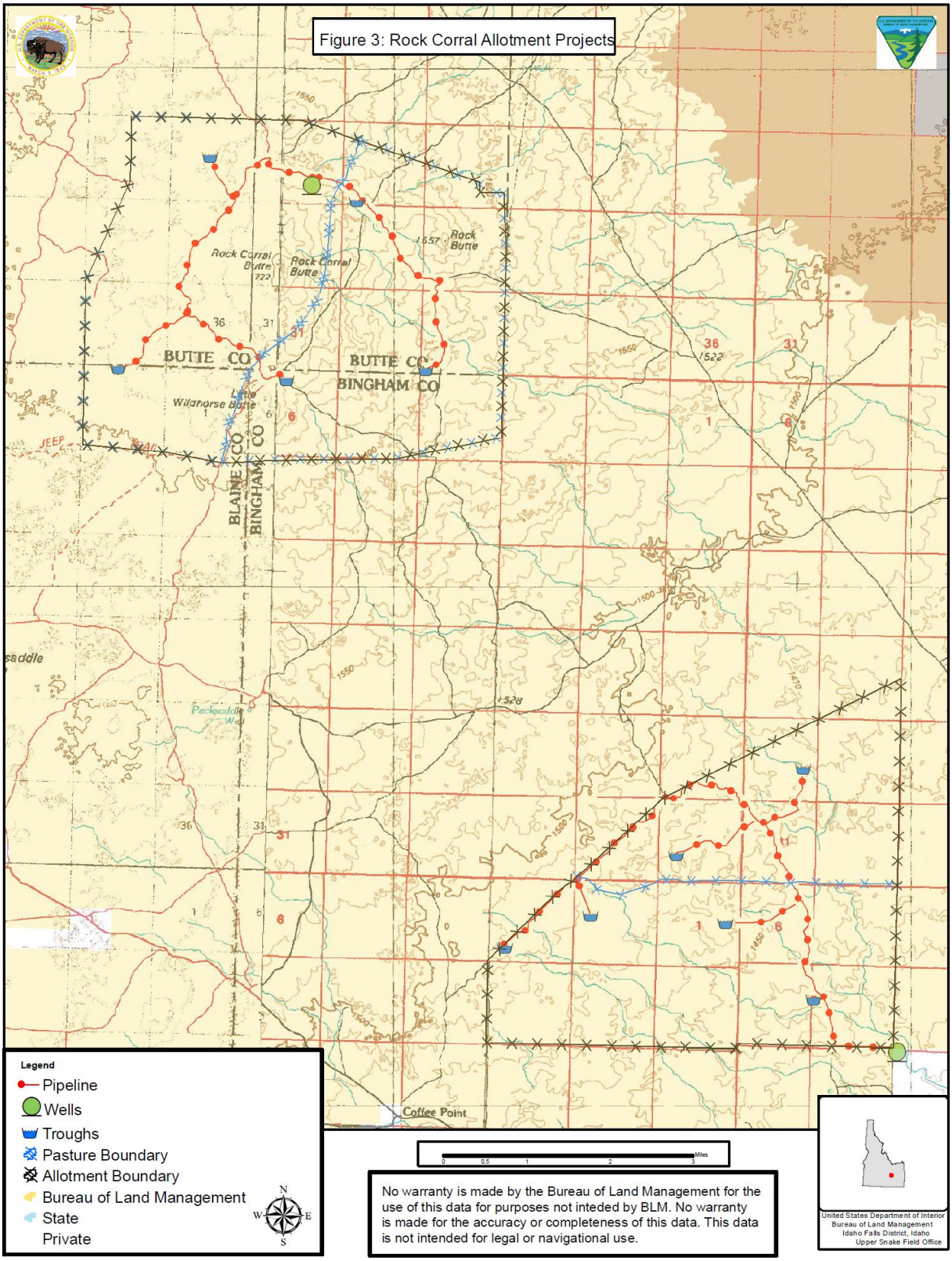
Figure 3: Rock Corral Allotment Projects
Rock Corral Butte
Rock Corral Butte
Rock Butte
BUTTE CO
BUTTE CO
BINGHAM CO
Wilhorse Butte
BLAINE CO
BINGHAM CO
Packsaddle Wash
Coffee Point
Legend
Pipeline
Wells
Troughs
Pasture Boundary
Allotment Boundary
Bureau of Land Management
State
Private
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Alternative C (No Grazing):

Under a No Grazing Alternative, the Upper Snake Field Manager would discontinue all livestock grazing in the Rock Corral Allotment for a 10 year period from 1/1/2013 to 12/31/2023. The permittee would retain their preference in the allotment, but would not be authorized to graze.

Other Terms and Conditions Common to Alternatives A and B

The following other Terms and Conditions would be included as part of the grazing permit under alternatives A and B, in accordance with 43 CFR 4130.3-2.

1. Authorized use would be made as described under the approved grazing plan for the Rock Corral Allotment.

2. Range improvements must be maintained to BLM standards by the turnout dates for each allotment on this permit. All livestock water troughs must have a functional wildlife escape ramp and be appropriately floated. Installation and maintenance of wildlife escape ramps are the responsibility of the permittee.

3. Distribution of livestock salt and mineral supplements would be at least ¼ mile from the nearest water source.

4. In connection with allotment operations under this authorization, if any human remains, cultural, archaeological, historical, paleontological, or scientific objects and sites are discovered, the permittee shall stop operations in the immediate area of the discovery, protect such resources, and immediately notify the BLM Authorized Officer (AO) of the discovery. The immediate area of the discovery must be protected until the operator is notified to resume operations by the AO.

5. If sage grouse fence strikes are documented in the future on new or existing pasture or allotment fences, the fences would be modified to improve visibility in order to minimize sage grouse strikes.

Monitoring Under All Alternatives

The BLM will monitor the following attributes to determine whether the allotment continues to meet or make significant progress towards meeting the ISRH.

1. Upland Utilization – Utilization studies would be conducted using approved BLM methods in key upland areas and use areas would be mapped by pasture. Average utilization should be no more than 50% of the annual growth of available forage species in the grazed pastures (Technical Reference 1734-3, 1999).

2. Upland Trend – Trend studies would be conducted in the uplands using approved BLM methods in key areas. One photo plot would be established at each key area. Long-term

trend studies would be conducted using approved BLM methods (Technical Reference 1734-4, 1999).

3. Sage Grouse Habitats – Grazing use levels in pastures with sage grouse habitat would be monitored to evaluate if the grazing system is resulting in maintenance or improvement of vegetative characteristics needed for suitable habitat in accordance with the Big Desert Local Working Group's Plan for Increasing Sage Grouse Populations (USLWG, 2009), 2006 Conservation Plan for Greater Sage Grouse in Idaho (ISGAC, 2006), and Instruction Memorandum No. 2012-043 - Greater Sage-Grouse Interim Management Policies and Procedures.

CHAPTER 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter provides a description of the general environmental setting and resources within that setting that could be affected by the Alternative A, B, and C. In addition, the section presents an analysis of the direct and indirect impacts likely to result from the implementation of the three alternatives.

General Setting

The general topography in the Rock Corral Allotment is gently rolling with major relief resulting from basalt extrusions and craters. The elevation ranges from 4,650 feet above sea level in the South Pasture to 5,650 feet on Rock Corral Butte. Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*) dominates the overstory in the allotment, while bluebunch wheatgrass (*Pseudoroegneria spicata*) dominates the understory. Average yearly precipitation in the two lower pasture ranges from 8 to 12 inches, while the two upper pastures precipitation ranges from 12 to 16 inches. Approximately, fifty percent of the precipitation in the allotment occurs during the plant growing season.

Resources Considered in the Impact Analysis:

The results of the site-specific assessment indicate that not all of the resources considered are present and/or would be impacted by the Alternative A, B, and C (Table 1). Direct and indirect impacts on those resources that are present and impacted are discussed in the following narratives.

Table 1 - Resources Considered in the Impact Analysis*.

Resource	Resource Status	Rationale
Access	Present, Not Impacted	The proposed action and alternatives would not result in changes in access to the area.
Air Quality	Present, Not Impacted	The implementation of the proposed action and alternatives would not result in the production of emission or particulate matter above incidental levels.
Areas of Critical Environmental	Not Present	The proposed project area is not located within or near an ACEC.

Table 1 - Resources Considered in the Impact Analysis.*		
Resource	Resource Status	Rationale
Concern (ACECs)		
Cultural Resource	Present	Impacts are disclosed under Environmental Consequences
Economic and Social Values	Present	Impacts are disclosed under **Environmental Consequences**
Environmental Justice	Not Present	There are no minority or low income populations residing near the proposed project area.
Existing and Potential Land Uses	Present, Not Impacted	The proposed action and alternatives would not affect the areas current and likely future use as a grazing allotment.
Fisheries	Not Present	There are no fisheries present in the allotment.
Floodplains	Not Present	There are no floodplains located in the allotment.
Forest Resources	Not Present	There are no forest resources present in the Rock Corral Allotment.
Invasive, Non-Native Species	Present	Impacts are disclosed under **Environmental Consequences**
Mineral Resources	Present, Not Impacted	The proposed action and alternatives would have no impact on mineral resources within the area.
Migratory Birds	Present	Impacts are disclosed under **Environmental Consequences**
Native American Religious Concerns	Not Present	There are no known ceremonial sites or resources associated with ceremonial practices in the project area.
Paleontological Resources	Not Present	There are no known paleontological resources located in the area.
Prime and Unique Farmlands	Not Present	There are no prime or unique farmlands located within the allotment.
Soil Resources	Present	Impacts are disclosed under **Environmental Consequences**
Threatened, Endangered, and Sensitive Plants	Not Present	There are no known threatened, endangered, and sensitive plants located in the project area.
Threatened, Endangered, and Sensitive Animals	Present	Impacts are disclosed under **Environmental Consequences**
Threatened, Endangered, and Sensitive Fish	Not Present	There are no threatened, endangered, and sensitive fish located in the project area.
Recreational Use	Present, Not Impacted	No recreational use impacts have been identified under the proposed action or alternatives in the Rock Corral Allotment.
Tribal Treaty Rights and Interests	Present, Not Impacted	The proposed action and alternatives would have no effect on the tribes' access to use the area to exercise their treaty rights and would have no known effect on resources they use for traditional purposes.
Vegetation	Present	Impacts are disclosed under **Environmental Consequences**
Visual Resources	Present , Not Impacted	The proposed action and alternatives are consistent with the existing VRM III class management objectives. The objective of a Class III visual resource designation is to partially retain the existing character of the landscape.
Wastes, Hazardous and Solid	Not Present	There are no solid or hazardous wastes in the project area and none would be created during the implementation of the proposed action, and other alternatives.
Water Quality (Surface and Ground)	Not Present	There are no water quality issues identified in the allotment.
Wetland and	Not Present	There are no wetland and riparian zones located in the

Table 1 - Resources Considered in the Impact Analysis.*		
Resource	Resource Status	Rationale
Riparian Zones		project area.
Wild and Scenic Rivers	Not Present	There are no designated wild and scenic rivers near the project area.
Wild Horse and Burro HMAs	Not Present	There are no wild horse and burro HMAs in the region.
Wilderness	Not Present	There are no wilderness areas or WSAs within the proposed project area.
Wildlife Resources	Present	Impacts are disclosed under **Environmental Consequences**

Cultural Resources

Affected Environment

To evaluate the Rock Corral Allotment for cultural resource values, a Class I records search was conducted using a Geographical Information System (GIS) inventory and site databases to determine previously surveyed acres and sites recorded within the allotment boundary.

Five previous inventories have been conducted within the Rock Corral Allotment boundary. Of the three inventories, four were conducted at a Class III level and covered approximately 3,210 acres (15% of the allotment). These surveys were conducted between 1989 and 2008 and were completed according State Historic Preservation Office (SHPO) and BLM standards as outlined in the State Protocol. A Class II inventory was conducted in 1979 in the Big Desert area and approximately 80 acres of the east pasture of the Rock Corral allotment was inventoried as a result of this study.

There are twenty-eight (28) known cultural resources located within the allotment boundary. Of these, twenty-five (25) are prehistoric sites and isolates, two (2) are historic in nature, and one (1) is a multicomponent site. The prehistoric resources consist primarily of lithic and a tool scatters or isolated tool fragments; two (2) of these lithic scatters are in association with a lava tube/blister. The historic sites are rock cairns that are associated with sheepherding and navigation in the Big Desert.

Fifteen (15) sites are recommended potentially eligible for inclusion to the National Register of Historic Places (NRHP). The prehistoric lithic scatters and associated lava tubes have a potential for intact, buried deposits are potentially eligible for the NRHP under criterion D.

Environmental Consequences

Alternative A - No Action

Livestock grazing has the potential to directly impact historic properties primarily through trampling which can modify the horizontal and vertical distribution of artifacts and impact resource integrity. Livestock impacts to cultural resources use on the Rock Corral Allotment is generally limited, with activity mainly focused at congregation areas. In areas where livestock is more dispersed, it can be predicted that impacts will be mainly surficial, causing no stratigraphic mixing, but perhaps resulting in horizontal displacement of artifacts.

No livestock congregation areas have been identified where there are known historic properties that are recommended potentially eligible for inclusion to the NRHP. Permit renewal in the Rock Corral Allotment would result in "no historic properties affected" of known historic properties listed or eligible for listing on the NRHP.

Alternative B - Proposed Action/ Preferred Alternative

Impacts to cultural resources would be similar to those presented under Alternative A; however, the range improvements proposed in Alternative B could have direct impacts on cultural resources.

The construction of two pipelines totaling approximately 22 miles, the placement of eleven troughs along these pipelines, and the drilling of one well could directly impact cultural resources. Direct impacts could result from ground disturbance during the construction of the pipeline, and the congregation of livestock at the eleven trough locations. The pipeline would total approximately 14 acres of disturbance, and has the potential to impact the integrity of historic properties due to vertical and horizontal displacement of artifacts by ground disturbance. Another six acres of disturbance could be indirectly caused by livestock congregating at the troughs. However, the pipeline would be installed adjacent to existing roads and troughs would be placed at existing waterhaul locations; therefore, minimizing the impact to areas that have been previously disturbed.

Approximately four miles of the proposed pipeline lies within areas previously inventoried for cultural resources; no known historic properties are located along the proposed routes. Prior to any ground-disturbing activities, a Class III inventory of the proposed range improvements would be conducted in areas that have not been previously surveyed for cultural resources, and any adverse effects to historic properties would be avoided or mitigated though consultation with the Idaho SHPO and affected tribes.

Alternative C - No Grazing

This alternative would eliminate all livestock threats of damage to historic properties for a period of 10 years.

Economic and Social Values

Affected Environment

Two measures of economic impacts used in studies exploring impacts to livestock operations due to changes in federal grazing permits and leases are herd reduction and forage substitution (Rowe and Bartlett, 2001). Herd reduction may be a better indicator of operation efficiency rather than direct economic impact at the level of the individual operator (Rowe and Bartlett, 2001).
The impact on any single ranch operation of a reduction in public land AUMs may be enormous, depending on the flexibility of its nonfederal forage base and other factors (Harp et al, 2000).
The impacts of herd reductions resulting from federal land management policy changes that reduce federal land AUMs have been estimated at the community and county level (Harp et al, 2000), however, these estimates are based on evenly distributed federal land AUM reductions at

a scale beyond the allotment level. Based on recent USDA cattle market reports (USDA, 2012) the average recent market steer price was $750 or $75 per AUM assuming a 10 AUM input. The average recent market price for replacement cows was $1100 or $110 per AUM assuming 12 AUMs input. Therefore the change in gross revenue for the operators may range from $75 to $110 per AUM. Therefore the change in gross revenue for the operators may range from $75 to $110 per AUM. Forage replacement has also been used as a proxy indicator of economic impact. Forage replacement values may range in cost from replacement from private pasture to replacement from hay versus the annual cost of forage on public land which was $1.35 per AUM in 2011. Average private pasture cost in Idaho in 2011 was $12.60/AUM and average local hay prices were $100/AUM. Therefore the forage substitution cost annually would range from $11.25 to $98.65 per AUM.

Additional costs to livestock operations associated with public lands grazing may include construction and maintenance of range improvement projects, transportation costs, and operating cost associated with herd maintenance and management. The cost or impact on the individual operator is difficult to quantify and is highly variable depending upon their specific situation. Some costs would occur on private grazing lands as well and are therefore not associated specifically with public land grazing.

Environmental Consequences

Alternative A – No Action

Alternative A would result in no changes in the mandatory terms and conditions for livestock grazing in the Rock Corral Allotment. There would be no impact from Alternative A which is the baseline for addressing economic and social values.

Alternative B – Proposed Action/Preferred Alternative

Under Alternative B, there would be no change in the authorized use levels. The proposed pipeline would result in additional cost for implementation. In the short term, the installation of the pipeline would greatly increase the social and economic impact to the permittee, but in the long term, the impact would greatly diminish because of the reduced cost of water haul trucks, vehicle maintenance, and high fuel costs.

Alternative C – No Grazing

Under Alternative C, the authorized use would be reduced by 1,346 BLM AUMs. The forage substitution cost to the permittee under Alternative C would range from approximately $15,142 to $132,782 each year, for the next ten years. If the herds are reduced as a result of decreased forage availability, the decreased gross revenue through herd reductions would range from approximately $100,950 to $148,060.

Invasive, Non-Native Species

Affected Environment

Noxious weed monitoring and treatment records for the public lands within the Rock Corral Allotment report occurrences of Canada thistle (*Cirsium arvense),* musk thistle (*Carduus nutans*), and rush skeletonweed (*Chondrilla juncea*). The reported infestations of invasive, non-native species occur along the road systems within the allotment. Cheatgrass (*Bromus tectorum*) was observed along the roadways and on the rocky outcrops in all four pastures. The amount of disturbance associated with the frequent fire interval has provided an opportunity for invasive, non-native species to establish. The Upper Snake Field Office actively inventories, monitors, and treats occurrences of invasive non-native species within the field office area using the Standard Operating Procedures outlined in the Programmatic Environmental Assessment for Integrated Weed Management for the Upper Snake Field Office and Pocatello Field Office (USDI-BLM 2009b).

Environmental Consequences

Livestock are one vector in the Rock Corral Allotment that could disperse invasive, non-native species. Other potential vectors in the area include but are not limited to vehicles, wind, recreationists, waterways, and wildlife, including birds.

Alternative A – No Action

The potential impacts of invasive, non-native species found in the allotment included degradation of native habitat. Seeds of these undesirable species may be dispersed by wind, water, animals, or humans. Under Alternative A, livestock would continue to be authorized in the allotment. The allotment evaluation identified that, overall, the allotment is make significant progress towards meeting applicable ISRH. By maintaining and/or improving the ecological health of the current native plant communities in allotment, the opportunity for expansion of invasive, non-native species would be reduced. All new and existing infestations in the uplands would continue to be aggressively treated.

Alternative B – Proposed Action/Preferred Alternative

Under Alternative B, the potential impacts of invasive, non-native species could be slightly higher compared to Alternative A. The impacts to invasive/noxious weeds in relation to the grazing plan would be similar to Alternative A. The main difference between the two alternatives relative to invasive, non-native species is the ground disturbance activities associated with the construction of the pipeline. The construction of the pipelines would result in approximately twenty acres of ground disturbance. Ground disturbance activities create an opportunity for establishment and/or expansion of invasive, non-native species. The potential increase of cheatgrass as well as other invasive/noxious weeds would be minimal because the proposed pipelines would be constructed adjacent to existing roads and the proposed troughs would be located at existing watering locations. However, all project areas would be monitored closely for new occurrences of noxious weeds. All new and existing infestations would continue

to be aggressively treated. Noxious weed infestations, if not treated, can spread and alter healthy plant communities in the Rock Corral Allotment. Reseeding the disturbance areas associated with the construction of the pipelines with native seed would reduce the opportunity for establishment of weeds. The Upper Snake Field Office would continue to monitor and treat invasive, non-native species within the Rock Corral Allotment. Continuing to treat known infestations in the allotment would ensure that Standards 4 and 8 would continue to make significant progress towards meeting standards.

Alternative C – No Grazing

Under Alternative C, no livestock grazing would be authorized in the allotments for 10 years. The potential establishment or expansion of invasive, non-native species would be less than the other alternative described above due to the removal of one of these vectors.

Migratory Birds

Affected Environment

Approximately one-half of the breeding bird species in North America are neo-tropical migratory birds (Fisher 2000). Rock Corral Allotment provides habitats for a variety of neo-tropical migrants. Spring and summer breeding bird surveys conducted in the Big Desert have identified twenty species of migratory birds including violet-green swallow, rock wren, mourning dove, western meadowlark, northern harrier, common nighthawk, grasshopper and vesper sparrows, and sage thrasher using shrub steppe habitat in the area. Each of these species is found using sagebrush and grassland habitat during breeding, nesting, and brood-rearing seasons (Fichter 1959, DeChant et al. 1999, Brigham et al. 2011, Jones and Cornely 2002).

Several raptor species are likely to use Rock Corral Allotment including red-tailed hawk, golden eagle, northern harrier, burrowing and short-eared owls, American kestrel, and prairie falcon (DeLong and Steenhof 2004). The pattern and amount of cover may determine foraging habits of raptors with some raptors being successful in areas with increased cover and other species being successful with increased bare ground (Baker and Brooks 1981). Wildfires may serve to concentrate raptor species for brief periods of time due to reduced cover that may expose prey species (Smith 2000).

The allotment was evaluated and native plant communities were found to not meet the standard (due to repeated wild land fire) but making significant progress (due to regeneration of sagebrush). The lack of sagebrush and high amounts of tumble mustard and cheatgrass within the allotment reduces the ability to support sagebrush obligate and shrub land migratory bird species such as sage thrasher, green-tailed towhee, lark sparrow and Swainson's hawk (Schuler et al. 1988). On the other hand, reduced amounts of sagebrush coupled with increased native perennial grasses and forbs improve habitat quality and quantity for grassland species such as grasshopper and vesper sparrows.

Environmental Consequences

Alternative A – No Action

Birds generally do not respond to the presence of grazing livestock but to the impacts to vegetation as a result of grazing. Cattle compact soil by hoof action, remove plant materials, and indirectly reduce water infiltration, all of which can result in decreased vegetation density (Saab et al. 1995). Songbirds show the full range of responses to grazing. For example, Sage sparrow appear to respond positively to grazing; vesper sparrow, Northern harrier, Savannah sparrow and western meadowlark appear to respond negatively; while mourning dove, loggerhead shrike, lark sparrow, sage thrasher and Brewer's blackbird may be unresponsive or show mixed responses to grazing (Bock et al. 1993).

Similar to songbirds, migratory raptors also show a range of responses to grazing with some species (i.e., northern harrier) requiring increased ground cover and other species (i.e., burrowing owl) responding positively to reduced ground cover or bare ground (Saab et al. 1995).

Additional impacts to migratory birds occur from disturbance and potential trampling by cattle and disturbance from multiple daily water hauling operations. Water is hauled to the same locations annually so no new impacts to habitat are expected to occur but disturbance would continue to be expected throughout the grazing season.

Under Alternative A, grazing would continue at the same timing and intensity levels as currently authorized. Although a large proportion of the allotment is not meeting rangeland health standards due to the reduction in shrubs and increase in annual grasses and forbs (i.e., cheatgrass and tumble mustard) this is due to frequent fires rather than grazing. Existing native grass and forb components, while limited, are productive and healthy and provide habitat for grassland (i.e., grasshopper sparrow) and generalist migratory bird species (i.e., western meadowlark, Brewer's blackbird). The portion of the allotment with a healthy shrub component provides limited habitat for sagebrush and other shrub dependent species (i.e., sage thrasher, loggerhead shrike). As vegetation composition moves toward a more shrub dominated community bird species composition would also be expected to change.

Alternative B – Proposed Action/Preferred Alternative

Impacts to migratory birds under Alternative B would be similar to those under Alternative A with the exception of the potential expanded grazing season (a total of 30 days) which allows grazing to occur earlier in the spring and later in the fall grazing seasons. Use occurring earlier in the year may result in increased impacts if range readiness is delayed and cattle are turned out the first part of April. If the range is not ready cattle would travel farther in search of forage. If soils are wet increased soil compaction and disturbance would occur increasing opportunity for invasive plant species to colonize additional areas. On the other hand, cheatgrass is often the first grass to green up in the spring and cattle forage on it resulting in a reduced seed set that year. This may help to somewhat constrain the further spread of this invasive species.

Under this alternative every pasture would receive one season of full rest every fourth year and a delayed rotation through the other pastures over the remaining three years. This grazing schedule provides increased opportunity for grasses and forbs to set seed in all pastures for three of four years. This alternative would also provide increased residual cover in spring in two pastures as only one pasture would be grazed in the fall and one in the mid-summer. Residual grasses and forbs provide cover for nesting migratory birds.

Impacts from disturbance and potential trampling by cattle would be similar to Alternative A.

Direct impacts to migratory birds from the installation of a well and twenty-two miles of pipeline would be minimal as installation would avoid the majority of nesting and brood-rearing periods. The site could be cleared by a biologist if construction were to occur during breeding and nesting season. The pipeline would be buried adjacent to existing roads followed by seeding of native species which would reduce potential for impacts to migratory birds and their habitats. Following the initial installation a new storage tank would provide perching habitat for migratory birds increasing their potential for foraging and visibility for territoriality displays and song. Impacts from disturbance and potential mortality from water hauling would be eliminated under this alternative as be delivered via a well and pipelines.

Alternative C– No Grazing

Impacts to migratory birds from no grazing would vary by species as discussed under Alternative A. In general, understory cover (e.g., grasses and forbs) would increase in size and vigor with seed set occurring annually providing increased cover and forage. There would be no displacement or disturbance of migratory birds during critical breeding, nesting and brood-rearing seasons. Cheatgrass would increase in vigor, size and seed set and would continue to invade additional disturbed areas in the allotment retaining poor habitat for migratory birds.

There would be no water troughs in the allotment under this alternative. This would reduce available water to migratory birds in an arid environment and also reduce foraging opportunities for raptors as water troughs may serve to concentrate prey species such as mice, voles, and sage-grouse among others.

Impacts to migratory birds would be the least under Alternative C due to the reduced disturbance, increased forage production and cover, lack of competition and no additional infrastructure.

Impacts to migratory birds under Alternative B would be less than under Alternative A due a full season of rest and a delayed rotation for every pasture, a reduction in disturbance and potential mortality from water hauling and a slight increased potential to constrain the spread of cheatgrass. Impacts to migratory birds would be greatest under Alternative A due to the Sterling North and South pastures being grazed annually and disturbance and potential mortality from water hauling.

Soil Resources

Affected Environment

The soils across the Rock Corral Allotment range from mixed fine to coarse loamy soils. Six soil series dominate the Rock Corral Allotment: McCarey, Beartrap, Vickton, Atom, Nargon, and Coffee. The McCarey, Beartrap, and Vickton soil series are formed in wind alluvium and material weathers from basalt. These series are moderate to deep, well drained soils that are found on basalt plains. The other three dominate soil series predominantly found in the southern pastures are the Atom, Nargon, and Coffee soil series. These soil series consist of coarse loamy soils that can vary from very deep to moderately deep, well drained soils. The three series are can be found on lava plains, terraces, and alluvial fans. The dominant vegetation on all of these soils series are Wyoming big sagebrush, basin big sagebrush, and bluebunch wheatgrass (USDA-Soil Conservation Service, 1997).

Five field sites were evaluated in the allotment in 2011 (USDI-BLM 2011), which are representative of the watershed integrity condition across the allotment. Most of the Soil and Site Stability and Hydrologic Function indicators showed none to slight departure from site potential on the majority of the Rock Corral Allotment. Pedestals and Terracettes were rated as a slight to moderate departure from site potential on all four pastures. Active pedestalling was not present in the allotment, but evidence of past formations was observed. The past formations in the allotment were attributed to the frequent fire interval in the allotment. The Bare Ground indicator in the Sterling South Pasture was rated as a slight to moderate departure from site potential because of a recent restoration project in 2010. The change in plant community in both of the Sterling Pastures from one dominated by shrubs and large bunchgrasses to one dominated by small bunchgrass and annual shallow rooted forbs (tumble mustard) and grasses (cheatgrass) was the main factor for departure noted in the indicator for Soil Surface Resistance to Erosion. The Plant Composition and Distribution Relative to Infiltration indicator has been impacted in all four pastures because of the frequent fire interval in the allotment. The slight to moderate departure was attributed to the loss of the majority of the shrub species throughout the allotment and the decrease in large bunch grasses in the two Sterling Pastures. The amount of litter produced in the two Sterling pastures has been reduced because of the reduced plant community.

Environmental Consequences

The potential impacts to soils from livestock grazing include soil compaction and a reduction in the amount and distribution of ground cover resulting in accelerating erosion as evidenced by rills, pedestals, and flow patterns. Soil compaction by heavy objects, including trailing by livestock, has the potential to penetrate and compact soil material to depths of 15 to 20 inches, depending upon soil composition, particle size, and moisture content. Generally, the soils in the allotment will have increased moisture levels in the spring compared with the summer or fall. The soil from the surface to a depth of four to six inches is typically released from compaction by frost action. The deeper soil compaction that is not affected by frost action may remain in the soil for years. Soil compaction resulting from intensive livestock use, such as along trails and next to water sites, is estimated to occur on less than one percent of the allotment area. Deep soil compaction restricts root growth and reduces soil productivity.

Alternative A – No Action

Under Alternative A, soil surface disturbance and compaction would not increase. Soil compaction resulting from livestock use, such as along trails and next to water sites, is estimated to occur on less than one percent of the allotment area. Under this alternative, soil conditions in the Rock Corral Allotment would continue to support water infiltration and permeability rates appropriate to site potential. Vegetative cover on the allotment under Alternative A would continue to be sufficient to protect against wind and water erosion.

Alternative B – Proposed Action/Preferred Alternative

Under Alternative B, the level and distribution of existing soil compaction would be slightly higher than under Alternative A. Increased soil compaction would be expected along the proposed pipeline route due to the use of heavy equipment used in implementation. Assuming that the impact occurs along the proposed twenty-two mile length of pipeline is eight feet wide, the area of impact would be approximately twenty acres. Disturbance to soil would be limited to the existing road corridor in the allotment. Soil surface condition (amount of bare ground) and plant productivity or recruitment would gradually become less obvious, and would be difficult to detect as the area beginning to re-vegetate. Additional areas of increased soil compaction associated with the trough sets off of the new pipeline should be minimal because the troughs would be placed at existing waterhaul locations. Since the troughs would be placed in the existing footprint of the temporary troughs, the additional area impacted would be less than an acre. There would be less than a quarter of an acre of ground disturbance associated by drilling and installing a well in the North Pasture of the allotment. Any additional soil disturbance would be minimal because there would no trough placed in the vicinity of the well. The nearest trough locations would be approximately one mile away at established waterhaul locations. The total amount of potential soil disturbance would amount to less than one percent of the allotments acreage. Under Alternative B, soil conditions would continue to support water infiltrations and vegetative cover would be sufficient to protect against wind and water erosion.

Alternative C – No Grazing

Under Alternative C, the impacts to soil resources would be less than under any of the other alternatives described above. No livestock use would be authorized in the allotment for a period of 10 years under this alternative. Deep soil compaction resulting from intensive livestock use, such as trails and next to water sites, would no longer occur on the allotment area. The limited soil compaction related to livestock use in the portion of the soil profile which is typically released annually through frost action, would not be subject to repeated compaction. Elimination of livestock use for the duration of the permit may reduce the areas affected by deep soil compaction. Deep soil compaction would persist but would likely decrease over time due to the course nature of the substrate. Soil conditions on the allotment as a whole would continue to support water infiltration and permeability rates appropriate to site potential.

Threatened, Endangered, and Sensitive Animals

Affected Environment

All data known to the USFO, including data from the U.S. Fish and Wildlife Service, Idaho Department of Fish and Game, and the Idaho Natural Heritage Program has been used to identify any animal species currently listed under the Endangered Species Act (ESA). There are no Threatened or Endangered terrestrial animal species in the allotment. There is one candidate species in the allotment.

BLM special status species are: (1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA (BLM 2008). In addition, the Idaho Comprehensive Wildlife Conservation Strategy (IDFG 2005) lists 229 species of greatest conservation need that BLM has incorporated, in part, into the sensitive list.

Table 2 lists special status species that have been identified as occurring or potentially occurring within the Rock Corral Allotment. The probability of species occurring and justification for occurrence is provided. Species not occupying seasonal ranges or not expected to occur within the Rock Corral Allotment are not discussed.

Table 2. Wildlife Special Status Species and Occurrence within Rock Corral Allotment

Species	Status[a]	Type[b]	Occurrence	Rationale
greater sage-grouse (*Centrocercus urophasianus*)	C	BLM Type 2 IDFG SGCN	Potential	Restoration 1 habitat with limited amounts of key habitat. Many leks in area.
Townsend's big-eared bat (*Corynorhinus townsendii*)	S	BLM Type 3	Present	Roosting habitat present
pygmy rabbit (*Brachylagus idahoensis*)	S	BLM Type 2	Potential	Potential habitat
loggerhead shrike (*Lanius ludovicianus*)	S	BLM Type 3	Potential	Breeding habitat present
Ferruginous hawk (*Buteo regalis*)	S	BLM Type 3	Potential	Potential habitat
Brewer's sparrow (*Spizella breweri*)	S	BLM Type 3	Potential	Breeding habitat present
Sage sparrow (*Amphispiza belli*)	S	BLM Type 3	Potential	Potential breeding habitat
Piute ground squirrel (*Spermophilus mollis artemisae*)	S	BLM Type 3	Present	Observed in and near allotment

Status Codes: T=Federal Threatened Species; C=Candidate Species; XN=Experimental, Non-essential; S=BLM Sensitive Species

On March 23, 2010 the US Fish and Wildlife Service determined that listing of the greater sage-grouse range-wide was warranted but precluded by higher listing actions (75 FR 55). The Special Status Species Management Manual states that, "All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species" (DOI-6840, 2008). Habitat for sage-grouse within the BLM is currently

managed under Instruction Memorandum No. 2012-043 - Greater Sage-Grouse Interim Management Policies and Procedures. Local management actions also follow the Big Desert Local Working Group's Plan for Increasing Sage-Grouse Populations (BDLWG 2009) and the Conservation Plan for Greater Sage-Grouse in Idaho (ISGAC 2006). Although Idaho populations have shown increases in recent years they have not reached levels attained in the late 1960s or early 1970s and long term averages continue to indicate a declining population trend (Connelly et al. 2004).

The project area consists of 21,201 acres of which 16,445 are designated as Preliminary Priority Habitat (PPH) for sage-grouse and 4,756 acres are designated as Preliminary General Habitat (PGH). Both PPH and PGH are divided into subsets: perennial grasslands and sagebrush. All of the PPH and PGH acres in Rock Corral Allotment except ~480 acres lie within the perennial grasslands subset. In general, PPH and PGH designations are based on sage-grouse populations as identified in *Sage-grouse Priority and General Areas in Idaho* (BLM 2011). In particular, PPH is based on combined high male lek attendance, high lek density and high lek connectivity while PGH provides corridors connecting PPH, potential stepping stones for grouse movements within corridors, or occupied habitats characterized by low lek density. Both PPH and PGH may include areas of non-habitat. Impacts in these areas result in impacts to sage-grouse population centers and movement corridors.

Of the 21,201 acres within the Rock Corral Allotment, ~480 acres are identified as Key sage-grouse habitat and 20,721 acres are identified as Restoration Type 1 sage-grouse habitat. Fires within the allotment have reduced habitat quality for sage-grouse and other sagebrush obligate species due to high amounts of bare ground and weedy species. The few remaining native areas provide suitable sage-grouse breeding habitat and consist of 26% sagebrush, 38% perennial grass cover, and 4% forbs.

- Key habitat refers to areas of generally in-tact sagebrush that provide sage-grouse habitat during some portion of the year, and potential restoration areas comprised of perennial grasslands, annual grasslands and conifer encroachment areas.

- Restoration type 1 refers to Sagebrush-limited areas with acceptable understory conditions in terms of grass species composition. It includes native and seeded perennial grass rangelands. Such areas are often a result of wildfires or seedings. Management Recommendations of type 1 include areas that are very important to protect from wildfire and maintain or restore sagebrush and forb communities, where needed. Restoration costs are relatively inexpensive for these areas.

The majority of the allotment is classified as restoration 1 (perennial grass) sage-grouse habitat (BLM 2011) due to fires within the allotment that have reduced sagebrush cover. Sagebrush provides critical habitat components (escape cover, nesting habitat) as well as a major food source for sage-grouse (Idaho Sage-grouse Advisory Committee 2006). Sage-grouse habitat evaluations were conducted throughout the allotment during 2011. Connelly et al. (2004) reported breeding habitat consists of contiguous sagebrush stands with a sagebrush canopy cover

between 15 to 25% while adequate summer habitat consists of a sagebrush canopy cover of 10 to 20% and a total shrub cover of less than 25% (Connelly et al. 2000). A healthy perennial grass and forb understory is also important component of nesting and brood-rearing habitat (Idaho Sage-grouse Advisory Committee 2006).

Sage-grouse within the Rock Corral Allotment are part of the Snake-Salmon-Beaverhead ID population whose trend, as indicated by average number of males per lek, has declined by 57% from 1965–1969 to 2000-2007 (Garton et al. 2011). The five-year baseline from 1996-2000 in the Big Desert was 9.23 males per lek and 17.17 males per active lek. The current three-year average males per lek are 17.88, which is over 150% of the baseline period. The current three-year average for males on active leks is 31.25, which is also over 150% of the average males for active leks (IDFG, 2012).

In Idaho, based on long term averages, greater sage-grouse numbers have been gradually increasing since 2008 (Idaho SAC TAT 2012). Although, they have not reached levels attained in the late 1960s or early 1970s (Connelly et al. 2004). Average male lek attendance at leks within the Big Desert (Rock Corral lies within the Big Desert), show that although attendance fluctuates annually, they are currently at the same level observed in 2006 (Idaho SAC TAT 2012). There are no known sage-grouse leks within the allotment although there are forty-eight leks within five miles of the allotment, of which twenty-four are occupied and twenty-four are undetermined due to a lack of recent surveys. Analysis of occupied lek data gathered by Idaho Fish and Game, US Forest Service and BLM within 5 miles of the allotment show sage-grouse populations fluctuate annually and are currently slightly below the ten year average.

Native pastures

Sagebrush provides critical habitat components (escape cover, nesting habitat) as well as a major food source for sage-grouse (Idaho Sage-grouse Advisory Committee 2006). In general, the Sterling Pastures has an understory of invasive species (i.e., cheatgrass, tumble mustard), small perennial grasses (i.e., Sandberg's bluegrass), and a lack of native sagebrush shrubs. Functional structural groups, plant composition, and annual production are all reduced from that expected for the range sites within the allotment.

Sage-grouse habitat evaluations were conducted throughout the allotment during 2011. Connelly et al. (2004) reported breeding habitat consists of contiguous sagebrush stands with a sagebrush canopy cover between 15 to 25% while adequate summer habitat consists of a sagebrush canopy cover of 10 to 20% and a total shrub cover of less than 25% (Connelly et al. 2000). A healthy perennial grass and forb understory is also an important component of nesting and brood-rearing habitat (Idaho Sage-grouse Advisory Committee 2006). Although the majority of the allotment does not meet habitat guidelines due to a reduction of sagebrush some areas in the West and East Pastures are continue to provide habitat for sagebrush obligate species. Table 3 displays results from habitat evaluations completed during the summer of 2011 within native habitats:

Table 3: Habitat Evaluations

	West Pasture (South)		West Pasture (North)		East Pasture	
	Ground Cover %	**Foliar Cover %**	**Ground Cover %**	**Foliar Cover %**	**Ground Cover %**	**Foliar Cover %**
Perennial grasses		28		30		38
Annual grasses		26		12		6
Forbs		24		30		4
Sagebrush		0		30		26
Decadent Shrubs		0		0		0
Other Shrubs		0		4		0
Total Vegetative Cover		68		74		66
Litter	10		10		18	
Bare Ground	18		16		12	
Microbiotic Crust	0		0		0	
Rock	2		0		4	

Seedings

Crested wheatgrass seedings were planted following disturbances to stabilize soil, reduce colonization of disturbed habitats by weedy species (i.e., cheatgrass) and reduce potential wild land fire spread in summer (Zlatnik 1999). These seedings provide green forage in spring and fall and may be important to wild ungulates when other preferred food sources are unavailable. However, others have found that crested wheatgrass is only minimally used by pronghorn in the intermountain west (Zlatnik 1999); supports fewer nesting bird species and a lower density of birds, mammals, and reptiles in than areas dominated by sagebrush (Reynolds and Trost 1980); and that significantly more small mammals were captured in native sagebrush habitat although crested wheatgrass is an important food item for some small mammal species (Koehler and Anderson 1991).

There are approximately 2,000 acres of crested wheatgrass seedings in the Rock Corral Allotment. Seedings continue to be maintained and are meeting standards for seedlings; however, wildfire has reduced recolonization of shrubs within burned areas. Shrubs that have become established are mainly rabbit brush and horse brush with some sagebrush occurring. A native/crested wheatgrass seeding was recently planted which may improve habitat quality within the seeding for wildlife in the future.

Table 4 displays results from habitat evaluations completed in the crested wheatgrass seeding in the Rock Corral Allotment during the summer of 2011 within native habitats:

Table 4: Crested Wheatgrass Habitat Evaluations

	East Pasture Seeding		South Sterling Pasture Seeding	
	Ground Cover %	**Foliar Cover %**	**Ground Cover %**	**Foliar Cover %**
Perennial grasses		28		9
Annual grasses		0		0
Forbs		8		6
Sagebrush		0		19
Other Shrubs		6		10
Total Vegetative Cover		38		37
Litter	40		20	
Bare Ground	10		27	
Gravel and Stone	10		1	
Biological Crust	2		15	

The allotment was evaluated and native plant communities were found to not meet the standard (due to repeated wild land fire) but making significant progress (due to regeneration of sagebrush).

There are 10 lava tubes and caves found within five miles of the allotment; four of these caves have been identified as significant as they support Townsend's big-eared bat and *Myotis spp.* hibernacula. Recent acoustic surveys of caves in the southeastern portion of Idaho reveal caves not identified as biologically significant provide foraging and roosting habitat for additional bat species including; hoary, silver-haired, little brown, western small-footed, pallid, and Yuma bat (BLM and Power Engineers personal communications 2011) during summer and migration periods. Other than annual hibernacula monitoring and recent acoustic monitoring there is little information on bat population trends within the field office.

Pygmy rabbits are sagebrush obligate species inhabiting dense, tall stands of big sagebrush growing on deep, friable soils that allow them to dig extensive burrow systems (Janson 2002). Landscape features include alluvial fans and hillsides, swales within rolling topography, floodplains, brushy draws, riparian channels, edges of rock and lava outcroppings, and mima mounds (IDFG 2005). Pygmy rabbits are not expected to occur in the north pasture due to the loss of sagebrush from wildfire. However, pygmy rabbits have been found near the south pasture and there is some potential for them within the south pasture due to availability of sagebrush and loamy soils as well as rocky outcrops.

Loggerhead shrikes are passerines, widely distributed throughout the southern portion of Idaho and are often locally abundant where they occur, that prey upon reptiles, mammals, other birds and a wide array of invertebrates (Woods and Cade 1996). Loggerhead shrikes are known to use a variety of habitats including prairies, pastures, sagebrush desert, fencerows or shelterbelts of

agricultural fields, orchards, riparian areas, open woodlands, farmsteads, suburban areas, mowed road rights-of way, abandoned railroad rights-of-way, cemeteries, golf courses, and reclaimed strip mines (Dechant, et al. 1998b). Habitat must include suitable nesting shrubs or small trees and hunting perches interspersed over a grassy or herbaceous ground cover with some bare areas, where shrikes find most of their prey (Cade and Woods 1997).

Ferruginous hawks are large grassland raptors that breed in the shrub-steppe and semi-arid regions of western North America (Olendorff 1993). Their density and productivity are closely associated with cycles of prey abundance with mammals being the primary prey source during breeding season although birds, amphibians, reptiles, and insects are also taken (Dechant et al. 1998a, Woffinden and Murphy 1989). Habitat degradation due to agriculture and overgrazing have been reported as a threat to the species' survival in North America (Leary et al. 1998)

Brewer's sparrows breed in shrub steppe, transitions between shrub steppe and semi-desert shrub steppe habitats (Walker 2004). Brewer's sparrows are gleaners, consuming small insects, gleaned from foliage and bark of shrubs or dwarf trees and seed taken from the ground (Rotenberry et al. 1999). Reduced occupancy, nest success and season-long productivity in fragmented shrub steppe habitats suggest smaller patches of habitat are of marginal suitability (Walker 2004).

Sage sparrows are dependent on stands of sagebrush for nest sites, food, and cover (Vander Haegen 2003). They prefer semi-open habitats with evenly spaced shrubs 3-6 feet high (Martin and Carlson 1998) and are found more frequently in extensive areas of continuous sage (Vander Haegen 2003). Sage sparrows are ground foragers that eat insects, spiders, seeds, small fruits and succulent vegetation (Martin and Carlson 1998).

Piute ground squirrels are among the smallest members of the genus and one of the most desert-adapted (Rickart 1988). They are obligate hibernators emerging from estivation in the spring, remaining active for approximately 4 months and then returning to estivation the remainder of the year (Alcorn 1940). Densities of ground squirrel populations are related to local food supplies (Yensen and Sherman 2003) with densities increasing with rich food supplies (Rickart 1988). Ground squirrels eat a variety of grasses and forbs early in the active season, but consume flower and grass seeds when available (Yensen and Sherman 2003). Piute ground squirrels have been found in and around the allotment.

Environmental Consequences

Livestock grazing can have direct and indirect impacts on sage-grouse during nesting. Direct impacts include flushing or disturbing hens incubating eggs or trampling of nests or grouse, which is considered rare (Beever and Aldridge 2011). Indirect impacts include the removal of vegetation used for scent, visual and physical barriers to potential predators by nesting sage-grouse (DeLong et al. 1995). Poorly managed livestock grazing can alter plant community composition and distribution of desirable vegetation species and facilitate invasive species establishment. Livestock management practices that provide for the sustainability of perennial grasses and forbs generally maintain or minimally impact sage-grouse habitat (Idaho 2006).

Grass and height and cover are considered important factors for sage-grouse nest sites (Connelly et al. 2000). Taller herbaceous vegetation surrounding a nest likely influences the success of nesting sage-grouse (Wik 2002, DeLong et al. 1995). Livestock grazing can remove herbaceous vegetation used for cover by nesting sage-grouse. In sagebrush habitats cattle graze herbaceous vegetation in shrub interspaces, and begin foraging on vegetation beneath shrubs as interspace plants are depleted. Under light to moderate utilization levels, cattle use of sub-canopy vegetation has been documented as negligible (France et al. 2008). The degree of impact that livestock grazing has on sage-grouse nesting habitat is dependent on timing, intensity of use, vegetation composition, and other factors (Idaho 2006). Nest success is not considered to be a widespread problem in Idaho with an average success rate averaging 49% (Connelly et al. 2004).

There would be no impacts to Threatened and Endangered Species under any of the alternatives as there have been no known occurrences within 5 miles of the allotment in the last 10 years.

Alternative A – No Action

Alternative A renews the current grazing permit at existing levels with use occurring April 15th through July 7th by 350 cattle and October 15th through December 15th by 186 cattle for a total of 1,346 AUMs. Impacts to sensitive species birds would be based on modifications to habitat and would be similar to those discussed under migratory birds. Grazing would continue to occur during important sage-grouse breeding and nesting seasons in one pasture annually, potentially impacting sage-grouse through the reduction of understory grass and forb height and cover and resulting in reduced nesting success or increased nest and chick predation within that pasture. Different pastures would be grazed in the fall and the following spring reducing residual vegetation available for nesting and cover in two pastures leaving the other two pastures undisturbed. Direct impacts to sage-grouse would be disturbance during multiple daily water hauling activities.

Impacts to other sensitive bird species would be similar to those discussed under **Migratory Birds**.

Disturbed areas along roads, troughs, fences, cattle guards and rocky outcrops provide habitat for Piute ground squirrels. Direct impacts to Piute ground squirrels from grazing include trampling and collapse of existing burrows, and removal of vegetation they may use for forage. Indirect impacts include modification and disturbance of existing habitat potentially creating habitat suitable for Piute ground squirrel burrows.

Little is known about potential impacts to bats from livestock grazing. Impacts would be indirect and based on habitat modification and availability of insects as prey. Hovorka (1996) found that grazing history in the Sonoran Desert did not have a significant influence on insect or bat abundance. It is presumed livestock grazing would not have a significant influence on insect or bat abundance within the Big Desert where the Rock Corral Allotment is located. However, cattle are known to use one of the caves for shelter, how this is impacting bat species is unknown. Water would be available only when and where cattle are actively grazing. During the hottest months of the year bats would have to travel farther for water resources increasing

energy expenditure and travel time during the important pup-rearing season.

Alternative B – Proposed Action/Preferred Alternative

Alternative B would modify the existing permit by expanding the grazing season a total of 30 days allowing grazing to occur fifteen days earlier in the spring and continue fifteen days later in the fall grazing seasons. The grazing rotation was also modified with one pasture annually receiving total rest and a deferred rotation for the remaining three pastures. The number of permitted AUMs would be the same as under Alternative A. Impacts to sage-grouse would be similar to those discussed under Alternative A with the exception that same pasture grazed in the fall would also be the only pasture grazed during the nesting and early brood-rearing periods leaving three-fourths of the allotment undisturbed for nesting and brood-rearing of sage-grouse.

Impacts to sage-grouse from drilling a well and laying twenty-two miles of pipeline would be minimal as construction activities would occur outside important lekking and nesting seasons and disturbed habitats would be seeded with native forbs and grasses. Indirect impacts may occur as the storage tank would provide perching habitat for raptors potentially improving their ability to prey on sage-grouse. However, daily multiple water hauling activities would no longer take place reducing disturbance to lekking and nesting sage-grouse. The proposed pipeline and troughs conforms to the Greater Sage-grouse Interim Management Policies and Procedures Memo (IM-2012-043). The pipeline and troughs would be installed adjacent to existing roads and the water troughs would be placed at existing waterhaul locations. All of the existing troughs would have escape ramps and floats installed.

Impacts to sensitive species birds would be based on modifications to habitat and would be similar to those discussed under **Migratory Birds**.

Impacts to Piute ground squirrels would be increased potential burrowing habitat in and near the storage tank and a reduced potential for mortality from traffic.

Impacts to bats would be similar to those discussed under **Alternative A** with the exception that water availability would be reliable throughout the hot, arid months of summer in a desert environment. This may reduce travel time and energy expenditure during the summer pup-rearing season.

Alternative C – No Grazing

Impacts to sensitive bird species from no grazing would vary by species as discussed under **Migratory Birds**. In general, understory cover (e.g., grasses and forbs) would increase in size and vigor with seed set occurring annually providing increased cover and forage. There would be no displacement or disturbance of sensitive bird species during critical breeding, nesting and brood-rearing seasons. Crested wheatgrass seedings would remain wolfy and thick with little opportunity for establishment of native forbs, grasses and shrubs to occur providing poor quality habitat for sensitive bird species. Impacts to burrowing species would be a lack of disturbance or potential crushing or collapsing of burrows.

There would be no supplementary water available in the allotment for sensitive species resulting in additional travel time and energy expenditure during their important reproductive periods.

Impacts to sensitive species would be less under Alternative C than under Alternatives A, or B due to reduced disturbance, increased forage and cover, lack of competition and no additional infrastructure. Under Alternative C, sagebrush establishment would occur at a slower rate than both Alternative A and B because livestock use at the appropriate time and intensity could facilitate the return of sagebrush.

Vegetation

Affected Environment

The primary ecological site found in the Rock Corral Allotment is a Wyoming big sagebrush / bluebunch wheatgrass ecological site. Other common species across the allotment include green rabbitbrush (*Chrysothamnus viscidiflorus*), pockets of basin big sagebrush (*Artemisia tridentata* sp. *tridentata*), Sandberg bluegrass (*Poa secunda*), squirreltail (*Elymus elymoides*), Indian ricegrass (*Achnatherum hymenoides*), junegrass (*Koeleria cristatum*), and western wheatgrass (*Pascopyrum smithii*). Numerous species of forbs were also observed throughout the allotment. Average annual production of the native plant communities in the allotment are highly variable depending on the amount and timing of precipitation, among other factors. Annual production varies from 450 lbs/acre in unfavorable years, 750 lbs/acre in average years, to 1,200 lbs/acre in favorable years based on Natural Resource Conservation Service (NRCS) ecological site descriptions.

The following upland plant species are the ones most likely to be directly affected by livestock grazing: western wheatgrass, bluebunch wheatgrass, Junegrass, Indian ricegrass, Nevada bluegrass (*Poa nevadensis*), Sandberg's bluegrass, squirreltail, and needle and thread grass. Many annuals and perennial forbs are present and would receive grazing pressure.

Three field assessments were conducted across the native range and one on a crested wheatgrass (*Agropyron cristatum)* in the Rock Corral Allotment using techniques described in Interpreting Indicators of Rangeland Health – Technical Reference 1734-6 (BLM 2005).

A Native Plant Community Assessment was conducted in the West Pasture. The assessment rated seven of the nine indicators in the none to slight departure category. The indicator for Functional/Structural Groups was rated in the slight to moderate departure category because the shrub composition in the pasture has been reduced. The interdisciplinary team also observed reduced cover of large bunchgrass. The increased fire interval in the allotment has contributed to the reduced shrub and bunchgrass composition. The Invasive Plant indicator was rated in the moderate departure category because cheatgrass was found along roads, trails, and water haul locations, and was present within the interspace as a result of multiple wildfires within the past 15 years.

The second Native Plant Community Assessment was conducted in the East Pasture. The assessment rated seven of the nine indicators in the none to slight departure category. The

reduced rating for Functional/Structural Groups and the Invasive Plants indicator were directly correlated to increased fire activity that has occurred in the pasture since 1996. The Functional/Structural Groups indicator was rated in the moderate category because the loss of the shrub composition in the East Pasture. The majority of the pasture is currently dominated by grass species. The Invasive Plant indicator was rated in the slight to moderate departure category because cheatgrass was found, primarily in disturbed areas within the pasture.

The third Native Plant Community Assessment was conducted in the North Sterling Pasture. The assessment rated four of the nine indicators in the none to slight departure category. The change in plant community in the North Sterling Pasture from one dominated by shrubs and large bunchgrasses to one dominated by small bunchgrass and annual shallow rooted forbs (tumble mustard) and grasses (cheatgrass) was the main factor in departure rating for the Soil Surface Resistance to Erosion indicator. The reduced rating for Functional/Structural Groups, Litter Amount, Annual Production, and the Invasive Plants indicator ratings were directly correlated to increased fire activity that has occurred in the pasture since 1996. The above indicators were rated in slight to moderate or moderate departure from site potential because of the loss of the shrub composition, reduced large perennial bunchgrass composition, and increase in cheatgrass. The Invasive Plant indicator was rated in the moderate departure category because cheatgrass was found along roads, trails, and water haul locations, and was present within the interspace within the pasture as a result of multiple wildfires within the past 15 years.

A step-point cover transect was completed in two of the four pastures during the field assessment in the Rock Corral Allotment. Two step-point transects were completed in the West Pasture and one in the East Pasture. The results of the cover surveys are summarized in Table 5. Step-point cover data was not previously collected in the allotment.

Table 5. Foliar Cover Summary

	West Pasture (South)		**West Pasture (North)**		**East Pasture**	
	Ground Cover %	**Foliar Cover %**	**Ground Cover %**	**Foliar Cover %**	**Ground Cover %**	**Foliar Cover %**
Perennial grasses		28		30		38
Annual grasses		26		12		6
Forbs		24		30		4
Sagebrush		0		30		26
Decadent Shrubs		0		0		0
Other Shrubs		0		4		0
Total Vegetative Cover		68		74		66
Litter	10		10		18	
Bare Ground	18		16		12	
Microbiotic Crust	0		0		0	
Rock	2		0		4	

Two field sites within non-native seeding in the Rock Corral Allotment were assessed in 2011. One assessment was completed in the East Pasture on approximately 2,000 acres that had been previously seeded into crested wheatgrass (*Agropyron cristatum).* The second assessment was

completed in the South Sterling Pasture. In 2010, a 2,000 acres native/crested seeding was implemented. It is too soon to determine whether the seeding was a successful or not. Table 4 contains the findings of the interdisciplinary team on the assessment site. All of the indicators for Biotic Integrity in the East Pasture Seeding were rated as none to slight departure from site potential, except for Functional/Structural Groups indicator. The increased fire interval in the seeding has not been conducive to shrub recruitment, though the seeding itself has been maintained in functional condition. The majority of the Biotic Integrity indicators for the South Sterling Pasture seeding were rated in the slight to moderate or moderate category. Since the seeding was implemented in 2010, the seeding has not had ample time to establish. Disturbance related to implementation remains visible resulting in departure from potential.

Two step-point cover transects were conducted in seedings within the Rock Corral Allotment. The results of the cover surveys are summarized in Table 6. Step-point cover data was not previously collected in the seedings.

Table 6. Ground Cover and Foliar Cover Summary.

	East Pasture Seeding		South Sterling Pasture Seeding	
	Ground Cover %	**Foliar Cover %**	**Ground Cover %**	**Foliar Cover %**
Perennial grasses		28		9
Annual grasses		0		0
Forbs		8		6
Sagebrush		0		19
Other Shrubs		6		10
Total Vegetative Cover		38		37
Litter	40		20	
Bare Ground	10		27	
Gravel and Stone	10		1	
Biological Crust	2		15	

Environmental Consequences

Direct and indirect impacts to vegetation result from herbage removal or damage by foraging animals. Appropriate grazing or utilization levels can have the effect of stimulating plants, resulting in increased plant production if energy reserves are adequate. If the amount of grazing use or utilization is high for a given year, or especially for a sequence of years, the composition of the vegetative community may become modified as the more desirable, and more utilized species lose vigor and decrease in density throughout the site. The Evaluation for the Rock Corral Allotment found that the native plant communities was not meeting but making significant progress toward meeting standards for Rangeland Health. The establishment of sagebrush seedling in the allotment is the main reason why the allotment is making significant progress toward meeting native plant communities standards.

Alternative A – No Action

Under Alternative A, the season of use and authorized AUMs would remain at their current levels. The amount of authorized use in the Rock Corral Allotment is appropriate for the site potential and is not expected to result in a loss of site productivity. Plant litter accumulation and standing dead matter after grazing on any given year is sufficient to allow decomposition and leave onsite nutrients for cycling. Under Alternative A, the allotment would continue to make significant progress towards meeting standards for rangeland health.

Alternative B – Proposed Action/Preferred Alternative

Under Alternative B, the permittees would be authorized to graze 84 days within a 98 day spring season of use. The fall/winter season would be extended by fifteen days. Lengthening the seasons of use in the spring and fall/winter would allow for management flexibility in the Rock Corral Allotment. This would allow the permittees the ability to adjust spring grazing in light of range and pasture readiness annually upon request and approval of the BLM. The fifteen day extension in the fall/winter season would occur when the majority of the native plants are dormant. The number of authorized AUMs in the Rock Corral Allotment would remain the same as the current authorizations. The current grazing rotation would be slightly different than the rotation described under Alternative A. Under the proposed grazing rotation, each of the four pastures would receive yearlong rest every four years. In addition to one pasture receiving full season rest each year, a second pasture would receive growing season deferment on an annual basis. The combination of the complete rest of the one pasture each year and the deferment of the another pasture would provide preferred plants or areas the opportunity to maintain or gain vigor after grazing. The native plant communities in the Rock Corral Allotment would continue to make significant progress towards meeting standards.

Under Alternative B, two separate pipelines would be constructed in the Rock Corral Allotment. All of the trough sets would be placed at existing waterhaul locations. The pipeline would be installed adjacent to existing roads within the allotment. This would ensure that that much of the ground disturbance associated with the construction of the pipeline would lie within the footprint of the existing road system in the Rock Corral Allotment. Constructing the two pipelines would provide a reliable water source in all four pastures. Deferment on native plants within each pasture would be established annually by deciding the timing of water in each of the troughs in the pastures. Impacts to vegetation would be minimal around the troughs and the new well. Utilization near these projects would be utilized heavier with declining use levels as distance from water increased. Since no water trough would be placed near the new well location, minimal vegetation impacts associated with potential loafing of livestock could occur adjacent to the well facilities. Development of permanent water sites would not result in an overall decline in ecological condition in the Rock Corral Allotment. The allotment would continue to make progress towards meeting standards for native plant community health.

There would be less than a quarter of an acre of ground disturbance associated by drilling and installing a well in the North Pasture of the allotment. Any additional soil disturbance would be minimal because there would no trough placed in the vicinity of the well. The nearest trough locations would be approximately one mile away at established waterhaul locations.

The amount of authorized use in the Rock Corral Allotment is appropriate for the site potential and is not expected to result in a loss of site productivity. Plant litter accumulation and standing dead matter after grazing on any given year is sufficient to allow decomposition and leave onsite nutrients for cycling. Alternative B would ensure that the allotment continue to make significant progress towards meeting standards for rangeland health. Alternative B would maintain or improve the ecological condition of the allotment.

Alternative C – No Grazing

Under Alternative C, livestock grazing would be discontinued in Rock Corral Allotment for a ten year period. The allotment would be expected to maintain a static to upward ecological trend, and would continue to make significant progress towards meeting rangeland health. Under Alternative C, residual herbaceous cover and litter cover from native plants and cheatgrass would increase across the allotment. As residual herbaceous and litter cover increases, the continuity of fine fuels would increase, thereby increasing the risk of a larger and more severe wildfire than would likely occur if the allotment were grazed as described in Alternatives A or B. Davies et al. (2010) found that moderate livestock grazing decreased wildfire risk in sagebrush grasslands, as compared to long-term livestock grazing exclusion. Davies et al. also suggest that potential wildfires in moderately grazed sagebrush steppe would have decreased size, severity, and continuity as compared to non-grazed sagebrush rangelands. Wildfires would reduce the sagebrush cover in the allotment which could be detrimental to sagebrush obligate species such as sage-grouse. Under Alternative C, sagebrush establishment would occur at a slower rate than both Alternative A and B because livestock use at the appropriate time and intensity could facilitate the return of sagebrush.

Visual Resources

Affected Environment

The public lands managed by the Upper Snake Field Office have been divided into four Visual Resource Management (VRM) classes to help manage and reduce impacts to the scenic (visual) resource. The Rock Corral Allotment is within a VRM Class III and the objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate and management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

The Rock Corral Allotment encompasses desert habitats; dominated by sagebrush, rocky lava outcrops, and sandy soils. The combination of colors in the desert landscape is described as visually harmonious; the textures uniform, continuous and smooth. The landscape is wide and rolling with curving yet rugged line features. The scenic quality of the project area has lower ratings due to its low, rolling hills, little contrast in vegetation, lack of water bodies, and subtle color variations. The sensitivity level is low due to minimal visitation to the area and little public controversy concerning the BLM management policies.

Alternative A – No Action

There are no proposed range improvement projects under Alternative A. Therefore, there would not be impacts to visual resources.

Alternative B – Proposed Action/ Preferred Alternative

Range improvement projects are proposed under Alternative B; including the construction of approximately 22 miles of pipeline, installing troughs, drilling a new well, and installing a water storage tank. Based on the contrast rating worksheet for the proposed pipeline, the overall degree of contrast is weak. This evaluation was based on short-term impacts from pipeline installation. The original landscape characteristics and natural features would be restored once the pipeline project has been completed. Native seeding would help restore the vegetative disturbance from pipeline construction. The pipeline would be adjacent to roads, following the natural line and form of the landscape. The project may attract attention from the casual observer but should not dominate the view upon completion of the project.

A water storage tank would be installed near the new well and would be painted natural colors to create a harmonious effect when compared to the vegetation and landscape colors. The watering troughs and new well would be constructed in areas where improvements blend in with the surrounding line, form and texture of the visual environment. The troughs and new well may attract the attention of the casual observer, but should not dominate their view.

The proposed range improvement projects meet objectives of a VRM Class III. There are greater impacts to the visual resources under Alternative B compared to Alternative A.

Alternative C – No Grazing

Alternative C proposes no grazing in the Rock Corral Allotment; therefore, there would not be impacts to visual resources.

Wildlife Resources

Affected Environment

Rock Corral Allotment is located approximately 30 miles west of Blackfoot, ID and lies within the area known locally as the Rock Corral. The allotment is divided into four pastures in two different areas approximately five miles apart and separated by Springfield and No. 2 Well Allotments. Water in the allotment is available through daily water hauling activities that occur multiple times per day.

Ninety-eight percent of the allotment has burned in the past fifteen years resulting in limited availability of sagebrush habitat. Some existing areas of sagebrush may be quite large while the majority of sagebrush is found in small pockets throughout the burned portions of the allotment. Existing sagebrush stands consist primarily of Wyoming big sagebrush, three-tip sagebrush and bluebunch wheatgrass with an understory of a variety of forbs and perennial bunch grasses. In

areas of repeated burns perennial grasses continue to exist although cheatgrass and tumble mustard occur throughout the allotment reducing habitat quantity and quality for wildlife.

Environmental Consequences

Alternative A – No Action

Direct impacts to wildlife from grazing occur when vegetation is removed or trampled that could otherwise be used for food and cover. Additional direct impacts include disturbance or displacement of wildlife due to the presence of livestock and increased traffic from water hauling.

Reports conflict on the importance of crested wheatgrass to wildlife. Mule deer prefer native grasses and cheatgrass to crested wheatgrass and pronghorn consume less grass than deer with crested wheatgrass only minimally used (Zlatnik 1999). However, pronghorn have been observed foraging in crested wheatgrass seedings where forbs are available (Hall 1985). Crested wheatgrass is highly palatable to black-tailed jackrabbits (Ganskopp et al. 1993) and grasshoppers prefer crested wheatgrass stands to native vegetation in Idaho (Zlatnik 1999). Some small mammals (e.g., deer mice, montane vole, Townsend's ground squirrel) have been found using crested wheatgrass for food and cover (Koehler and Anderson 1991) while another study found that least chipmunks avoided crested wheatgrass and species diversity was reduced in crested wheatgrass seedings (Reynolds 1980). The palatability of crested wheatgrass to black-tailed jackrabbits (Ganskopp et al. 1993), small mammals (Koehler and Anderson 1991), and grasshoppers (Zlatnik 1999) may also serve to concentrate resident raptor species (e.g., golden eagle, American kestrel) along treatment areas.

Under Alternative A, grazing would continue at the same timing and intensity levels as currently authorized. Although a large proportion of the allotment is not meeting rangeland health standards due to the reduction in shrubs from frequent fires, grass and forb components in native habitats are productive and healthy and provide habitat for burrowing mammals and reptiles, big game, and resident bird species. The proportion of the allotment with a healthy shrub component provides habitat for sagebrush dependent wildlife species (i.e., pronghorn, sagebrush lizard). If wild land fires are reduced vegetation composition would move toward a more sagebrush dominated community with a resultant change in wildlife species composition and population trends.

Impacts to wildlife would be greater under Alternative A than Alternative B due to a continued disturbance from daily multiple water hauling trips, annual grazing of the Sterling Pastures and same early season grazing of the Sterling Pastures. Impacts to wildlife would be greater under Alternative A than Alternative C due disturbance and displacement of wildlife during the grazing season from water hauling, reduction in cover and forage. Availability of water would be the same for both Alternatives and C.

Alternative B – Proposed Action/Preferred Alternative

Alternative B would extend the grazing season an additional 30 days; 15 days earlier in the spring and another 15 days later in the fall. Despite the extend spring season, the permittee would only be authorized to graze 84 days with the 98 day season of use. AUMs would remain the same so there would be no anticipated additional reduction of grasses and forbs in the spring or impacts to shrubs in the fall.

Impacts to wildlife would be the same as those described under Alternative A with the potential to disturb or displace wildlife earlier in the spring and later in the fall due to the proposed grazing seasons. Also, use occurring earlier in the year may result in increased impacts if range readiness is delayed and cattle are turned out the first part of April. If the range is not ready cattle would travel further in search of forage. If soils are wet increased soil compaction and disturbance would occur increasing opportunity for invasive plant species to colonize additional areas. On the other hand, cheatgrass is often the first grass to green up in the spring and cattle foraging on it may result in a reduced seed set that year which may help to somewhat constrain the further spread of this invasive species.

Impacts to wildlife species from the drilling of a well and installation of twenty-two miles of pipeline would be minimal and based on disturbance and displacement for the short period of time construction would be occurring. Seeding of native forbs and grasses would reduce the potential for nonnative plants to colonize the area. Additionally, the pipeline is going in alongside existing roads and trails that are identified for fuel break maintenance. These areas are already disturbed and will receive repeated maintenance to retain existing fuel breaks. Reliable water sources would be available to wildlife throughout the spring, summer and fall months which may result in modifying wildlife use patterns in the allotment. Installation and maintenance of wildlife ramps would reduce potential mortality by drowning.

Impacts to wildlife would be less under Alternative B than Alternative A due to a reduction in disturbance from water hauling, a true rest rotation grazing schedule providing some undisturbed portions of the allotment for wildlife, reliable water source during the summer in an arid environment and the potential reduction of cheatgrass and subsequent potential for the spread of wild land fire due to a fifteen day earlier grazing season in the spring. Impacts to wildlife under Alternative B and C vary with both having some positive and negative impacts. Impacts under B would be reliable water sources, reduced potential for cheatgrass and subsequent spread of wild land fire but an extended grazing season and competition for space, cover, and forage. Impacts under Alternative C would be lack of disturbance and displacement from cattle and associated activities and a lack of competition for space, cover and forage but with a likely increase in cheatgrass and the spread of wild land fire as well as ephemeral water sources.

Alternative C - No Grazing

Under Alternative C, no grazing would be authorized in the allotment for a period of 10 years. During this period, wildlife species utilizing the allotment wound not be disturbed or displaced by livestock. Over the 10 year period, some improvement in upland habitat conditions would be expected which would benefit wildlife species. In general, understory cover (e.g., grasses and

forbs) would increase and plants would retain leaf surface for photosynthesis to maintain and increase root mass resulting in increased vigor. Improved seed production would increase potential for establishment of native or seeded species if suitable microsites are available and climatic conditions are suitable. These changes would result in increased diversity, cover, and height of grasses and forbs which would improve habitat quality (i.e., forage and cover) of native species for wildlife. However, removal of grazing may reduce prey availability, due to increased cover, of raptors (Douglass and Frisina 1993). Resident raptors and songbirds would continue to use existing perch sites for foraging and singing.

Cheatgrass is prevalent throughout the allotment and no grazing may result in an increase in vigor and seed set of existing cheatgrass stands. Cheatgrass provides fine fuels for fires which may ultimately reduce fire intervals and result in a further loss of existing native sagebrush steppe habitats.

Crested wheatgrass seedings would remain wolfy and thick with little opportunity for establishment of native forbs, grasses and shrubs to occur providing poor quality habitat for wildlife species. Impacts to burrowing species would be a lack of disturbance or potential crushing or collapsing of burrows.

There would be no supplementary water available in the allotment for wildlife species potentially changing the use patterns.

Impacts to wildlife would be less under Alternative C than under Alternatives A due to the lack of disturbance and displacement, lack of additional infrastructure, and the potential increase in habitat quantity and quality. Impacts to wildlife between Alternatives B and C vary and are similar to those described under Alternative B.

CHAPTER 4 - CUMULATIVE IMPACTS

This section of the document discloses the incremental impact that Alternatives A, B, and C are likely to have when considered in the context of impacts associated with past, present, and reasonably foreseeable future actions that have occurred, or are likely to occur, in the area. The Cumulative Impact Assessment Area (CIAA) for this analysis includes the Big Desert (Figure 7). The CIAA was delineated from the boundary of the American Falls, Lake Walcott, and Big Lost Hydrologic Unit as identified by the state of Idaho. The CIAA was further defined using administrative boundaries and major highways to delineate an area with similar climatic and anthropomorphic influences.

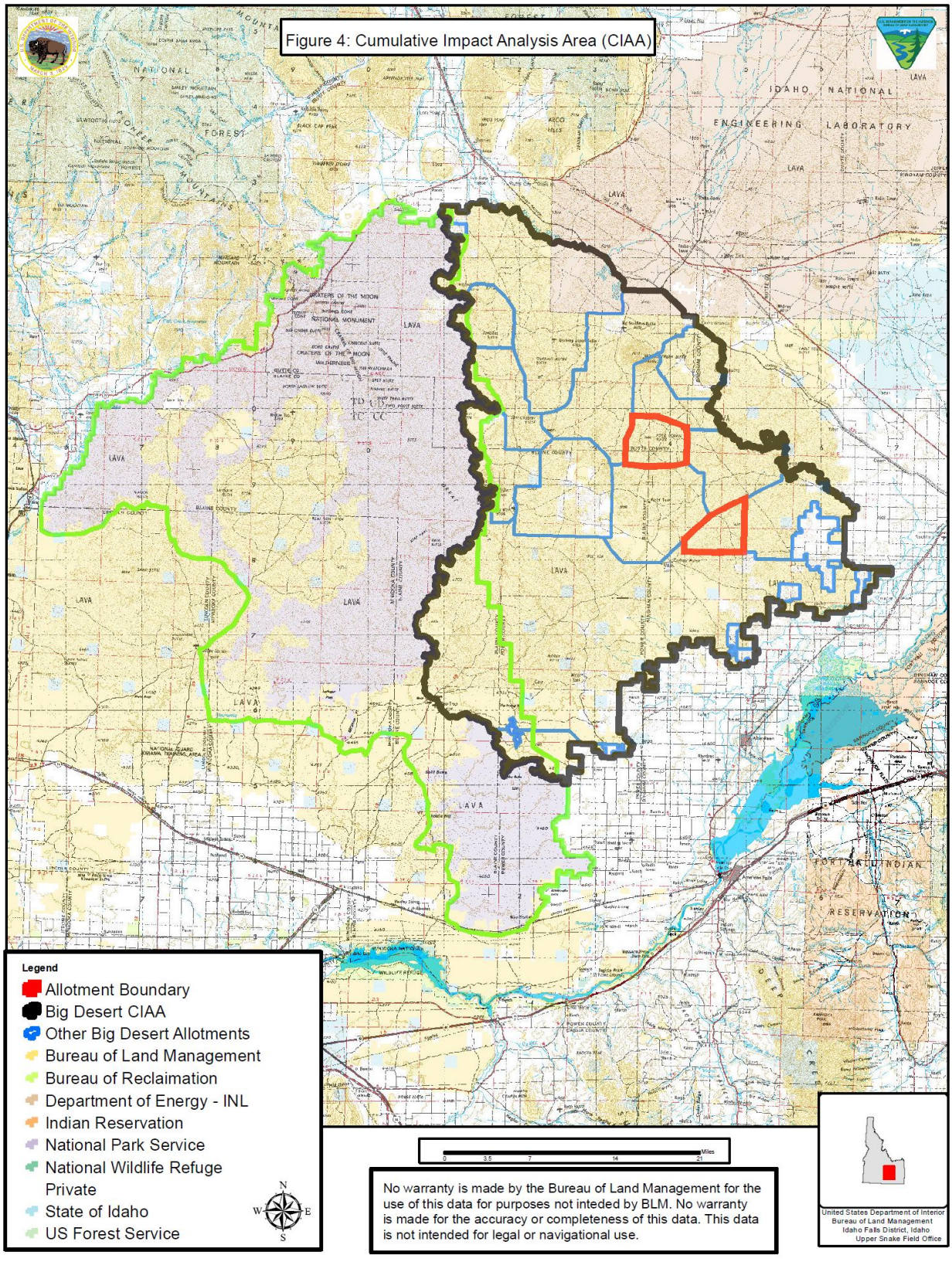
Figure 4: Cumulative Impact Analysis Area (CIAA)
Legend
Allotment Boundary
Big Desert CIAA
Other Big Desert Allotments
Bureau of Land Management
Bureau of Reclaimation
Department of Energy - INL
Indian Reservation
National Park Service
National Wildlife Refuge
Private
State of Idaho
US Forest Service
N
W
E
S
Miles
0 3.5 7 14 21
No warranty is made by the Bureau of Land Management for the use of this data for purposes not inteded by BLM. No warranty is made for the accuracy or completeness of this data. This data is not intended for legal or navigational use.
United States Department of Interior
Bureau of Land Management
Idaho Falls District, Idaho
Upper Snake Field Office
IDAHO NATIONAL ENGINEERING LABORATORY
LAVA
FORT HALL INDIAN RESERVATION

The CIAA contains approximately 623,381 total acres and includes portions of Bingham, Blaine, Butte, and Power counties. Table 6 describes the surface management status for lands within the CIAA.

Table 6 – Surface Management Status within the CIAA	
Bureau of Land Management	545,792 acres
Department of Energy – Idaho National Laboratory	24,592 acres
Idaho State Lands	8,827 acres
Private Property	43,267 acres
National Park Service	903 acres

A number of general habitat types or classifications are found across the CIAA. Table 7 list the acres within each cover classification based on the landscape classification map used for the USFO Analysis of Management Situation (AMS).

Table 7 – Habitat Types or Classifications within the CIAA	
Agriculture	15,617 acres
Annual Grasslands	5,461 acres
Bedrock-Cliffs-Scree	1,445 acres
Forest	430 acres
Perennial Grasslands	409,067 acres
Riparian-Wetland, including open water	82 acres
Sagebrush and Desert Shrublands	178,272 acres
Shrublands, including juniper and mountain mahogany	587 acres
Urban	891 acres
Volcanic Rock	11,528

Lands with special designations are found throughout the CIAA. The CIAA includes the entire China Cup Butte Wilderness Study Area (WSA)/Research Natural Area (RNA) and Cedar Butte and Great Rift WSAs. The WSAs encompass approximately 12,875 acres of public land within the CIAA. A portion of the Craters of the Moon National Monument is found within the CIAA, which encompasses approximately 75,536 acres.

Past and Present Actions

Past and present actions identified for the Big Desert which have impacted the natural environment to varying degrees include agricultural development, infrastructure such as highways and power lines, wildfires, livestock grazing, and recreation development. Table 8 summarizes actions which have occurred within the CIAA based on agency documents and GIS analysis.

Agricultural development has a long history in the CIAA. The majority of the agricultural development in the CIAA occurs in the southern end of the unit. Though Lewis and Clark first entered what would later become the state of Idaho in 1805, settlers were not attracted to the region until the 1880s. All of the settlements in the CIAA consist of small rural developments. The CIAA includes several counties, but generally includes the least densely populated areas

within those counties. Private property makes up approximately 7% of the land base in the CIAA, and the majority of that property is in agricultural production.

Livestock grazing has a long history in the region, dating back to the settlement of the area in the late 1800s. In the early settlement years, cattle and sheep were raised to supply the surrounding miners and settlers. Within the CIAA, ranching has declined over time since its peak in the early to mid-20th century as more lands were devoted to agriculture and urban development, and stricter controls of livestock use of public lands were established following the Taylor Grazing Act of 1934. Livestock production has remained relatively stable within the CIAA over the past 20 years and continues to be an important economic segment of the CIAA.

Recreation use within the CIAA has increased over time. Recreation use is primarily a dispersed activity within the CIAA. Dispersed campsites are found throughout the area. Big game hunting, camping, fishing, and motorized vehicle use are the primary recreational pursuits within the CIAA. Concentrated recreation use can result in habitat loss or alteration, as observed at camp sites. Dispersed recreation use may temporarily displace wildlife and cause physical damage to native vegetation, but by their very natures as dispersed, impacts are minor.

Table 8. Past Present Actions in the CIAA.	
Type of Activity	**Past and Present Actions**
Agricultural Development	
Land in Agricultural Production	*15,617 acres*
Urban Development	
Lands developed for residential or industrial use	*891 acres*
Infrastructure	
Roads	*1,342 miles*
Recreation Facilities	*<10 acres associated with dispersed campsites and trailheads.*
Fences	*349 miles*
Livestock Water Facilities	*59*
Mineral Material Sites	*5 active pits affecting 199 acres*
Powerline Corridor	*28 miles affecting 689 acres*
Wildfire	
Wildfires within the past 30 years	*430,467 acres*
Non-Native Seedings	
Area seeded to non-native	*135,081 acres*

Table 8. Past Present Actions in the CIAA.	
Type of Activity	**Past and Present Actions**
species, not included under agricultural or urban development	
Livestock Grazing	
Number of Allotments	*17 Active BLM Allotments comprising 544,891 public acres and 24,592 DOE acres managed by the BLM.* *2 Vacant BLM Allotments comprising 643 acres.*
Condition of Public Lands as Measured under ISRH	*3 allotments meet all standards totaling 310,810 acres (17,075 acres of the total is DOE land managed by the BLM)* *7 allotment making significant progress towards meeting all standards on 129,648 of 177,702 acres (6,000 acres of the total is DOE land managed by the BLM)* *5 allotments not meeting standards but not due to current livestock grazing management on 8,915 of 22,886 acres* *3 allotments not meeting standards due to livestock grazing on 44,363 of 57,090 acres. Management changes have since been implemented.* *1 allotment is vacant and has not been assessed (120 acres)*

Reasonable Foreseeable Future Actions

Reasonably foreseeable future actions include continuation of the past and present actions as described above. The level and character of agricultural development is anticipated to remain consistent into the foreseeable future. Populations within the CIAA are expected to remain static in near future. Recreational use is expected to continue to increase over time and the potential exists for development or expansion of recreation facilities on public lands within the CIAA. The level and character of livestock grazing within the CIAA is expected to remain at or near current levels barring any significant policy changes regarding grazing on federal lands which compose the majority of the CIAA. One new action has been identified as reasonably foreseeable. The Mountain States Transmission Intertie (MSTI), a high-voltage power line, may occur in the CIAA within the next ten years. At the current time, three alternative routes are being evaluated and a portion of a proposed route would occur in or adjacent to the CIAA.

Impacts Associated with Past, Present, and Reasonably Foreseeable Actions

Past and present actions have resulted in varying degrees of impact to the resources considered in the analysis area. Observable impacts are higher for agricultural development, infrastructure, and wildfire which have result in direct habitat loss, alteration, and/or fragmentation of the

natural environment. Assuming an average impact width of 12 feet relative to roads, 4 feet relative to fences, 200 feet relative to powerlines, one-half acre per water development, 40 acres per gravel pit, 10 acres associated recreational facilities, including the acres identified as agricultural and urban development, and non-native seedings/acres impacted by wildfire, approximately 496,489 acres or 80% of the CIAA has been impacted. These actions have altered or removed the native vegetation communities and introduced non-natural elements of form, line, and color that have altered and would continue to alter the characteristics of the visual landscape.

Unmanaged livestock (horses, cows, and sheep) grazing in the first half of the 20th century likely resulted in altered ecological conditions in the Big Desert. Use was historically higher adjacent to available water. As livestock grazing became more carefully managed in the areas, the ecological health of the rangelands improved. Since the majority of the land within the CIAA is public land, the condition of the vegetation communities on public lands authorized for grazing within the CIAA, which >99% has been assessed through ISRH. Of the approximately 570,126 acres of BLM within authorized grazing allotments, only 44,363 acres or 8% were determined to not be meeting one of the eight Idaho Rangeland Health Standards and livestock grazing was identified as a contributing factor.

Historically, big game species in the CIAA were used by Native Americans and early settlers as food and for their fur, teeth, bones and antlers or horns. Today big game are economically important for tourism, hunting and for their meat and other products. Activities that occur on public and private lands, such as agricultural practices; infrastructure development; recreational use such as camping, hunting, and ATV use; and livestock grazing management affect wildlife use patterns, the quantity and quality of habitats, and population health. Prior to the 1980s livestock typically grazed the CIAA in the spring and were gone by June resulting in little competition between big game and livestock. The addition of water troughs and wildlife guzzlers has resulted in big games species using the Big Desert as yearlong habitat instead of seasonal habitat increasing competition for available forage.

There is little historical information on the other wildlife species such as resident and migratory birds, reptile and small mammal species found in the CIAA. Historically, migratory bird response to past grazing pressure was likely similar to their response to current grazing practices, but on a much greater scale due to the unregulated grazing use. Compaction of soil, removal of plant materials and reduced water infiltration from grazing likely resulted in decreased grasses and forbs and an increase in shrub habitat. Changes in vegetation composition and structure ultimately results in a change in wildlife species abundance and diversity moving from species specialized for a certain habitat type to more generalist species.

Development of infrastructure and conversion of native habitats fragment the landscape reducing their value for some species, though other species may benefit from such development. While many wildlife species are mobile and have general habitat needs which may be met under a combination of the cover types or activities in the CIAA listed in Table 10, several species of concern have more restrictive habitat requirements.

The U.S. Fish and Wildlife Service (USFWS) identified primary and other threats to Greater sage-grouse in its 12-Month Findings for Petitions to List the Greater Sage- Grouse (*Centrocercus urophasianus*) as Threatened or Endangered (USFWS 2010). The primary cause of sage-grouse population decline identified by the USFWS was fragmentation of sagebrush habitats due to: habitat conversion for agriculture or urbanization, infrastructure within sagebrush habitats (powerlines, communication towers, fences, roads, railroads, etc.), wildfire and energy development (specifically roads and energy related infrastructure). Other important threats included: inadequate regulatory mechanisms, invasive plants (annual grasses and noxious weeds), climate change, collisions (with fence, powerlines, etc.), conifer invasion, contaminants, disease (West Nile virus), poorly managed livestock grazing, hunting, mining, predation, prescribed fire/vegetation treatments, recreation (OHV use) and water developments (USFWS 2010). It is often the cumulative impact of various disturbances that have the greatest effect on sagebrush ecosystems, rather than any single disturbance (Knick et al. 2011).

Key sage-grouse habitats are large scale, intact sagebrush steppe areas that provide sage-grouse habitat (Sather-Blair et al. 2000). Within the Big Desert CIAA there are approximately 155,569 acres of Key sage-grouse habitat, which is approximately 25% of the CIAA. There are also 347,207 acres (56% of CIAA) of Restoration Type 1 habitat in the CIAA. These areas have limited sagebrush composition, but acceptable understory comprised of native and/or seeded perennial grass rangelands. Restoration Type 1 habitats are considered important areas of focus for sagebrush establishment and retention (Sather-Blair et al. 2000). Within the CIAA there are also areas with acceptable sagebrush cover, but inadequate desirable herbaceous cover in the understory or the understory is comprised of invasive annual grasses or exotic plants. Habitats that meet these criteria are considered Restoration Type 2 (Sather-Blair et al. 2000). Within the CIAA there are only 1,393 acres of Restoration Type 2 habitat (<1% of CIAA). Restoration of Type 2 areas would require expensive management treatments.

Sage-grouse Preliminary Priority Habitats (PPH) are those areas of highest conservation value due to high male lek attendance, high lek density and high lek connectivity (Makela and Major 2011). There are approximately 504,643 acres of PPH within the Big Desert CIAA. Preliminary General Habitats (PGH) are habitats occupied by sage-grouse not contained within PPH. PGH areas are characterized by lower lek densities that may serve as important connectivity corridors between PPH (Makela and Major 2011). There are approximately 74,247 acres of PGH within the CIAA. Table 9 summarizes known impacts within PPH and PGH areas in the Big Desert CIAA:

Table 9– Impacts within PPH and PGH Areas in Big Desert CIAA.

	Agricultural Development	**Urban Development**	**Infrastructure**	**Wildfire**	**Livestock* Grazing**	**Non-Native Seedings**
PPH Acres of Perennial Grasslands	189	88	1,579	336,911	374	62,010
PPH Acres of	172	3	783	17,928	23,099	17,989

	Agricultural Development	Urban Development	Infrastructure	Wildfire	Livestock* Grazing	Non-Native Seedings
Sagebrush						
Total PPH Acres Affected	361	91	2,362	354,839	23,473	79,999
PGH Acres of Perennial Grasslands	489	135	267	62,347	20,890	23,897
PGH Acres of Sagebrush	177	1	38	890	75	968
Total PGH Acres Affected	666	136	305	63,237	20,965	24,865
% of all PGH Acres	3%	<1%	<1%	85%	28%	33%

* Actions describe areas identified as not meeting ISRH and livestock grazing management was determined to be the primary factor. In situations where the specific location of acres not meeting the applicable standards were not delineated in a GIS data base and available for analysis relative to delineated PPH and PGH areas, the assumption was made if the allotment included PPH habitat, all of the acres not specifically located were within PPH areas. Likewise, if the allotment only included PGH habitat, all of the acres not meeting the applicable standard were considered to be within PGH areas. While this assumption may inflates that acreage impacted by livestock grazing in PPH or PGH habitat, respectively, it insures that potential PPH and PGH acreages impacted by livestock grazing are not excluded.

Although livestock grazing was not identified as a primary threat, it is one of the more widespread uses occurring in sage-grouse habitat (Connelly et al. 2004). There is limited evidence to suggest direct impacts to sage-grouse by livestock, but livestock grazing does directly affect sage-grouse habitats by removing vegetation (foraging) or changing species composition under poor management practices (Connelly and Braun 1997). Of the actions identified within PPH and PGH areas, public lands acres affected by wildfire accounts for the largest amount (70%) of habitat impacted. Though it is important to note that because PPH is based on the highest lek attendance and lek density, past actions such as conversion to agriculture and urban development likely displaced sage-grouse, and because they no longer occupy these areas, the amount of these activities occurring in the defined PPH would be expected to be low. In total, the identified actions have impacted approximately <1% of PPH and PGH area. Aside from the direct impacts of habitat alteration, these disturbances may alter sage-grouse behavior causing them to avoid impacted habitats or displace populations to more suitable areas.

Sage-grouse within the CIAA are part of a larger population known as the Snake-Salmon-Beaverhead population. A population viability analysis for the Snake-Salmon-Beaverhead population was completed by Garton et al. (2011). The viability analysis factored in known current and historic anthropogenic factors including domestic livestock grazing from 1965-2007. This analysis included sage-grouse meta-populations within the CIAA. Garton et al. (2011)

found that the Snake-Salmon-Beaverhead population had a 0%-27% chance of falling below population viability levels (≥500 male sage-grouse) in the next 100 years.

No new primary threats such as conversion of sage-grouse habitat for agriculture and urbanization have been identified in the CIAA. One of the routes for the Mountain States Transmissions Intercept (MSTI) is proposed to run through the center of the CIAA. Approximately thirty nine miles of the transmission line would run through PPH and ten miles would run through PGH. MSTI would also potentially run through 525 acres of Key and 1500 acres of Restoration Type 1 sage-grouse habitats. No other foreseeable infrastructure projects (roads, energy development, etc.) have been identified within the CIAA. Expansion of invasive species and wildfire are foreseeable threats within the CIAA that are difficult anticipated in frequency or intensity. Loss of habitat associated with wildfire is likely to continue to be the greatest foreseeable threat to sage-grouse populations in the CIAA. Managing for healthy habitats in the CIAA provides the most protection against invasive species and resiliency to disturbances such as wildfire. PPH are comprised of areas that have the highest conservation value for maintaining sustainable sage-grouse habitats. Additional disturbances (e.g. new infrastructure development) are less likely to be implemented in PPH areas without adequate mitigation in the future (BLM 2011).

Alternative A – No Action

Alternative A would contribute very little to the collective impact associated with past, present and reasonably foreseeable future actions. Livestock use would remain at current levels and no infrastructure development associated with livestock use would be constructed. The number of road miles within the area would not increase as a result of implementing Alternative A. The number of upland acres being maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species. Standard 4 and 8 would likely to continue to make progress and the amount of suitable habitat for wildlife species, including special status species that occur in the Big Desert would also continue to make progress. Under this alternative, there would no increase in the amount of PPH not meeting standards due to livestock.

Alternative B – Proposed Action/Preferred Alternative

Alternative B would contribute very little to the collective impact associated with past, present and reasonably foreseeable future actions. Though livestock use would remain at current levels, approximately 22 miles of pipeline would be constructed and one well would be drilled within the Rock Corral Allotment. No addition impacts would occur with the placement of the water troughs off of the pipeline because they would be placed at existing waterhaul locations. These projects would result in approximately twenty acres of habitat disturbance associated with infrastructure, an increase of approximately 0.2% within the CIAA. The number of road miles within the area would not increase as a result of implementing Alternative B. Standards within the Rock Corral Allotment would likely continue to meet or make progress and the amount of suitable habitat for wildlife species, including special status species that occur in the Big Desert would also continue to make progress.

Alternative C – No Grazing

Alternative C would contribute very little to the collective impact associated with past, present and reasonably foreseeable future actions. Livestock use would not occur for a ten year period within the allotment. The number of road miles within the area would not increase as a result of implementing Alternative C. The removal of livestock under Alternative D would result in improvement in habitat conditions in some areas of native plant communities in the allotment in lower ecological condition. The amount of suitable habitat for wildlife species, including special statues species that occur in the CIAA would remain about the same.

CHAPTER 5 – SUMMARY AND CONCLUSIONS

The results of the environmental assessment indicate that the actions described in Alternative A would continue to meet Standards 1 and 5, and make significant progress toward meeting Standards 4 and 8. Standard 1 (*Watersheds*) would continue to be met, meaning that the existing soil and site stability and hydrologic function would be maintained. Standard 5 (*Seedings)* would also continue to be met functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle. Standards 4 (*Native Plant Communities*) and 8 (*Threatened, Endangered, and Sensitive Species Habitat*) would continue to make significant progress towards being met, meaning that the allotment would make progress towards providing biotic integrity that would result in healthy plant communities and wildlife habitat. Renewing the current grazing permit in the Rock Corral Allotment would continue aid in improving the sagebrush cover on the allotment. Under Alternative A, there would be no impact on economic or social values.

The assessment indicates that Alternative B would continue to meet Standards 1 and 5, and make significant progress toward meeting Standards 4 and 8. Under Alternative B, the permittees would be authorized to graze 84 days within a 98 day spring season of use. The fall/winter season would be extended by fifteen days. Lengthening the seasons of use in the spring and fall/winter would allow for management flexibility in the Rock Corral Allotment. This would allow the permittees the ability to adjust spring grazing in light of range and pasture readiness annually upon request and approval of the BLM. The fifteen day extension in the fall/winter season would occur when the majority of the native plants are dormant. The number of authorized AUMs in the Rock Corral Allotment would remain the same as the current authorizations. The current grazing rotation would be slightly different than the rotation described under Alternative A. Under the proposed grazing rotation, each of the four pastures would receive yearlong rest every four years. In addition to one pasture receiving full season rest each year, a second pasture would receive growing season deferment on an annual basis. The combination of the complete rest of the one pasture each year and the deferment of another pasture would provide preferred plants or areas the opportunity to maintain or gain vigor after grazing. Impacts to wildlife and migratory birds would be increased potential to disturb or displace animal and bird species earlier in the spring and later in the fall due to the extended grazing seasons. Constructing the two pipelines would provide a reliable water source in all four pastures. Deferment on native plants within each pasture would be established annually by deciding the timing of water in each of the troughs in the pastures. Vegetation around the troughs would be utilized heavier with declining use levels as distance from water increased. The impacts to vegetation in proximity of the new well would be minimal and would be confined

to the quarter acre of disturbance in the North Pasture. The pipeline would be installed adjacent to existing roads within the allotment. This would ensure that the amount of ground disturbance associated with the construction of the pipeline would lie within the footprint of the existing road system in the Rock Corral Allotment. The pipeline would be adjacent to roads, following the natural line and form of the landscape. Impacts to sage-grouse from drilling a well and laying twenty-two miles of pipeline would be minimal as construction activities would occur outside important lekking and nesting seasons and disturbed habitats would be seeded with native forbs and grasses. Indirect impacts may occur in close proximity to the storage tank and would provide perching habitat for raptors potentially improving their ability to prey on sage-grouse. However, daily multiple water hauling activities would no longer take place reducing disturbance to lekking and nesting sage-grouse. The proposed pipeline and troughs conforms to the Greater Sage-grouse Interim Management Policies and Procedures Memo (IM-2012-043). The pipeline and troughs would be installed adjacent to existing roads and the water troughs would be placed at existing waterhaul locations. All of the existing troughs would have escape ramps and floats installed. The proposed pipeline would result in additional cost for implementation. In the short term, the installation of the pipeline would greatly increase the social and economic impact to the permittee, but in the long term, the impact would greatly diminish because of the increased cost of water haul trucks, vehicle maintenance, and high fuel costs.

The assessment indicates that Alternative C, which includes no livestock grazing in the allotment for a 10 year period, would continue to meet or make progress toward meeting standards. Under Alternative C, sagebrush establishment would occur at a slower rate than both Alternative A and B because livestock use at the appropriate time and intensity could facilitate the return of sagebrush. The allotment would continue make progress to provide habitats suitable to maintain viable populations of special statues species and improvement in habitat condition. However, under Alternative C, there would be a substantial economic impact on the operators. The forage substitution cost to replace 1,346 AUMs would range from approximately $15,142 to $132,782 annually, depending upon forage substitution options available. If the herd are reduces as a result of decreased forage availability, the decreased gross revenue for the operators through herd reductions would range from approximately $100,950 to $148,060 annually. Under Alternative C, there would be no project implementation on BLM lands.

CHAPTER 6 - CONSULTATION AND COORDINATION

Persons and Agencies Consulted

Rock Corral Ranches, LLC – Permittee
Idaho Department of Fish and Game
Idaho State Dept. of Agriculture
Chairman, Land Use Policy Committee, Shoshone-Bannock Tribes
Northwest Band of Shoshone Nation
Chairman, Tribal Business Council, Shoshone-Bannock Tribes
U.S. Fish and Wildlife Service
Western Watersheds Project

List of Authors

Scott Minnie: Economic and Social Values/Invasive, Non-Native Species/Vegetation/Soil Resources
Theresa Mathis: Migratory Birds/Wildlife Resources/Threatened, Endangered, Sensitive Animals
Marissa Guenther: Cultural Resources
Shannon Bassista: Visual Resources

/s/ Scott Minnie 12/6/2012
Preparer Date

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APPENDIX A – DETERMINATION DOCUMENT FOR ROCK CORRAL ALLOTMENT

SECTION 1 – IS A DETERMINATION REQUIRED?

_X_ All Standards are met or making significant progress towards meeting and there is conformance with the guidelines. **No Determination is required, review is complete.**

___ One or more Standards is not being met or there is non-conformance with the guidelines. **An Authorized Officer's Determination is required; continue with Section 2.**

SECTION 2 –DETERMINATION

The Determination documents the authorized officer's finding that existing grazing management practices or levels of grazing use on public lands either are or are not significant factors in failing to achieve the standards and conform to the guidelines within a specified geographic area. (H-4180-1 page I-3)